HELSINKI SCHOOL OF ECONOMICS (HSE)
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CORPORATE OWNERSHIP STRUCTURES IN SCANDINAVIA

The importance of owner identity

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ABSTRACT
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PURPOSE OF THE STUDY

The aim of this study is to investigate corporate ownership structures in Scandinavia, to provide with a detailed picture of Scandinavian ownership, and to compare this picture in international context. Firstly, the ownership structures of the largest Scandinavian companies are compared to the ownership structures of the largest companies in Germany, Japan and the USA to see whether the unique nature of Scandinavia ownership found in previous studies is still observable. Secondly, the ownership structures of public Scandinavian companies are investigated in more detail to form a complete picture of ownership in Scandinavia. Finally, ownership concentration and owner identity are associated with different company performance variables to test the relationship between ownership structure and company performance in the Scandinavian cultural and legal environment.

DATA

The empirical analysis of the study is based on two separate datasets. The first dataset includes observations of owner identities and cash flow and voting right stakes of the five largest owners of the 20 largest companies in Germany, Japan, Scandinavia and USA at the beginning of year 2008 The second dataset consists of identities and cash flow and voting right stakes of five largest owners of 196 public companies in Denmark, Finland, Norway and Sweden with a market capitalization over 500 million Euros in April 2008. In addition to the ownership data, the second dataset consist of observations of several different accounting and stock market measures for all the sample companies. Both datasets were collected by manually combining ownership information provided by Thomson One Banker and the company websites. After identifying the initial owners, standard online search engines were used to track down the ultimate owners.

RESULTS

The main findings of this study are that corporate ownership structures in Scandinavia are significantly different from the ownership structures observed in other geographical regions. Typical characteristics of Scandinavian ownership include high level of ownership concentration measured by the voting stake of the largest shareholder, relatively high number of significant shareholders behind the largest one, and significant number of families, individuals, and pension funds as major shareholders. In the Scandinavian legal and cultural environment the level of ownership concentration is found to have insignificant impact on firm performance and valuation, but the identity of the largest shareholder is associated with observable differences. State ownership is associated with relatively poor performance in terms of valuation, profitability, asset efficiency and sales growth as opposed to ownership by financial institution that is associated with high valuation and profitability.

KEYWORDS

Ownership, ownership structures, ownership concentration, owner identity

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YRITYSTEN OMISTAJARAKENTEET SKANDINAVIASSA
Omistajan identiteetin tärkeys

TUTKIMUKSEN TAVOITE

Tutkimuksen tavoitteena on tarkastella yritysten omistajarakenteita Skandinaviassa, tarjota yksityiskohtainen kuva skandinaavisten yritysten omistajuudesta ja peilata tätä kuvaa kansainvälisesti. Tutkimus on toteutettu vertaamalla aluksi suurimpien skandinaavisten yritysten omistajarakenteita suurimpien saksalaisten, japanilaisten ja yhdysvaltalaisten yritysten omistajarakenteisiin. Tutkimuksen toinen osa keskittyy skandinaavisten yritysten omistajarakenteiden tarkempaan kuvaukseen ja viimeinen osa tarkastelee omistajarakenteen ja yrityksen suorituskyvyn välistä suhdetta tavoitteenaan arvioida, onko omistajien identiteetillä vai omistajuuden keskittyneisyydellä suurempi vaikutus yrityksen toimintaan.

DATA

Tutkimuksen empiirinen osa perustuu kahteen erilliseen otokseen. Suurten skandinaavisten yritysten omistajarakenteiden vertailussa kansainvälisiin omistajarakenteisiin on käytetty havaintoja kahdenkymmenen suurimman pörssinoteeratun yrityksen viidestä suurimmasta omistajasta Japanissa, Saksassa, Skandinaviassa ja Yhdysvalloissa. Toinen tutkimuksessa käytetty otos koostuu 196 Norjassa, Ruotsissa, Suomessa ja Tanskassa pörssinoteeratun yrityksen viiden suurimman osakkeenomistajan ääni- ja osakemäärästä. Lisäksi toinen otos sisältää havaintoja tutkimuksessa käytettyjen 196 yrityksen tilinpäätös- ja markkinatunnusluvuista. Kaikki tutkimuksessa käytetty data on kerätty manuaalisesti yhdistämällä omistajuustietoa Thomson One Banker – tietokannasta sekä kohdeyritysten verkkosivuilta. Ensisijaisten omistajien identifioinnin jälkeen yrityksissä lopullista päätösvaltaa käyttävät omistajat etsittiin Internetin hakupalvelimien avulla.

TULOKSET

Tutkimuksen empiirinen osa osoittaa, että yritysten omistajarakenteet Skandinaviassa poikkeavat keskimäärin huomattavasti monien muiden maiden omistajarakenteista. Skandinavialle tyypillisiä piirteitä ovat omistajuuden keskittyneisyys suurimman osakkeenomistajan keskimääräisellä ääniosuudella mitattuna, toiseksi suurimman osakkeenomistajan suhteellisesti huomattava ääniosuus sekä perheiden, yksilöiden ja eläkerahastojen suuri määrä huomattavien osakkeenomistajien joukossa. Omistajuuden keskittyneisyyden suhde yrityksen suorituskykyyn ei vaikuta merkittävältä skandinaavisessa kulttuuriympäristössä. Toisaalta suurimman omistajan identiteetillä on vaikutusta yrityksiin; erityisesti valtio-omistus yhdistyy keskimääräistä heikompaan suorituskykyyn arvostuksella, kannattavuudella ja operationaalisella tehokkuudella mitattuna. Vastaavasti rahoitusinstituutio suurimpana omistajana vaikuttaa liittyvän keskimääräistä korkeampaan arvostustasoon ja kannattavuuteen.

AVAINSANAT

Omistajuus, omistajarakenne, omistajuuden keskittyneisyys, omistajan identiteetti

Table of Contents

List of Tables

1. Introduction

The traditional model of dispersed corporate ownership originally suggested by Berle and Means (1932) has long been one of the fundamental concepts of modern finance. According to the theory, atomistic investors are mostly concerned with the value and risk of their diversified portfolios and have little involvement in running the companies. Following these guidelines, a large part of academic research on ownership structures mainly focused on the potential agency conflicts between the atomistic owners and the company management who might not act in the best interest of the owners. Today, these studies form a significant part of modern corporate governance literature.

During the past two decades, the academics have started to question the practical applicability of the assumption of atomistic ownership structures. Recently, e.g. La Porta et al. (1999) and Faccio and Lang (2002) show that widely dispersed corporate holding structure is not necessarily the most common form of ownership, even in developed countries. On the contrary, large blockholders that can exercise significant control over the management are present in many countries. Many academic papers have also discussed the determinants of the concentration of ownership, such as the level of legal protection of minority shareholders or the legal and political system in general (see e.g. La Porta et. al, 1997). In addition, the discussion related to the agency problems has shifted from the conflicts of interest between management and owners to the expropriation of minority shareholders by the large blockholders. Most recently, papers by e.g. Thomsen and Pedersen (2003), Maury and Pajuste (2005) and Minguez-Vera and Martin-Ugedo (2007) have tried to measure the effect of the level of ownership concentration and owner identity on firm-specific variables such as the market value.

Today the concept of concentrated ownership is widely accepted by the academics. We know that the ownership of public companies is often far from being dispersed and that the goals of large blockholders can be significantly different from those of minority investors holding diversified portfolios leading to new types of agency conflicts (see e.g. Thomsen and Pedersen, 2003). There is also a wide consensus over several empirical findings. For instance, countries with low minority shareholder protection tend to have more concentrated ownership. Civil-law countries have, on average, more concentrated ownership than common-

law countries. (La Porta et al., 1998). Large blockholders might act in their own interest on the expense of the minority shareholders (Shleifer and Vishny, 1997).

However, the true effect of concentrated ownership remains unclear for the most part (Holderness, 2003). For instance, empirical findings of the relationship between the level of ownership concentration and firm value are mixed. Some studies have attributed the problems to the endogeneous nature of ownership concentration (see e.g. Zhang, 2004) while others have pointed out the importance of "system-effects", i.e. the fact that the effects of ownership concentration depend on the legal and cultural system of the region under review (Minguez-Vera and Martin-Ugedo, 2007). Also many other fundamental questions remain mostly unanswered. For instance, what kinds of firm characteristics are associated with a certain controlling shareholder identity, or what is the effect of *multiple* powerful blockholders on firm performance?

While the most recent research on corporate ownership structures has discussed some of the above-mentioned questions, the need for additional empirical evidence is evident. In addition, one fundamental problem with many ownership studies is the relatively poor quality of data obtained from the most common databases. Especially in countries with complicated ownership structures often accompanied by dual class shares – such as the Scandinavian countries – the picture based on the outputs of standard data vendors can be surprisingly far from the truth. Consequently, a study using smaller and more closely evaluated sample would certainly be needed to provide comparison to other studies using larger but potentially less reliable datasets.

This study provides with additional empirical evidence on ownership concentration in one specific legal and cultural environment and tries to tackle the data quality problem with careful hands-dirty approach in collecting the data. In comparison to previous ownership studies, the dataset is rather unique also in the sense that it includes information about the other major shareholders behind the two largest ones (although Mínques-Vera and Martín-Ugedo (2007) used similar approach). The main sample of observations consists of ownership data of the largest publicly quoted companies in Denmark, Finland, Sweden, and Norway (hereafter Scandinavia) with market capitalization above 500 million Euros. Scandinavia is an ideal target region for a study investigating the effects of ownership concentration since the

general level of ownership concentration is very high (see e.g. Faccio and Lang, 2002). This contrast to many other countries with more dispersed ownership structures makes Scandinavia an exciting study target – especially since, as pointed out by Thomsen and Pedersen (2003), the majority of empirical evidence of the importance of ownership structures has come from the USA where ownership is much more dispersed.

Furthermore, the attractiveness of Scandinavia as a target region for an ownership study is particularly high since, despite the high level of ownership concentration, the level of Scandinavian legal systems is generally considered excellent (La Porta et al., 1998; Coffee, 2001b). Finally, the cultural and legal environment in all of the Scandinavian countries is relatively homogeneous which makes the interpretation of the empirical results easier. Among many others, López-de-Foronda et al. (2007) emphasize the cultural differences in ownership structures and the underlying agency conflicts and warn about measurement errors when investigating the effects of ownership structures in different legal and cultural environment simultaneously. This is not a problem with Scandinavian data.

The most important research questions of the study are the following:

1. How does the general picture of ownership in Scandinavia look like compared to Germany, Japan and the USA?

2. What is the level of ownership concentration among the large Scandinavian companies?

3. Who are the ultimate owners of the large Scandinavian companies?

4. What kind of firm characteristics is ownership concentration associated with?

5. What kind of firm characteristics are different controlling shareholder identities associated with?

The first three research questions will be answered with descriptive analysis. The remaining two questions are further spilt into several sub-questions and the analysis includes statistical tools such as t-tests fir the differences in means and multivariate regression.

The purpose of the first three research questions is to confirm the earlier findings of e.g. Faccio and Lang (2002) and Cronqvist and Nilsson (2003) who show that ownership in Scandinavia tends to be concentrated with families as the dominant controlling shareholder category. Particularly the first research question will address the issue of uniqueness of Scandinavian ownership structures compared to those observed in other regions. In addition, the answers to research questions 2 and 3 will provide the reader with an update of Scandinavian ownership structures as the datasets of the most important earlier studies were collected in the 1990s.

After the correct ownership context has been set up, the last two research questions try to associate Scandinavian ownership structures with different firm characteristics. Main hypothesis of the study is that the level of ownership concentration per se *does not* have a significant impact on firm characteristics but that ownership structures as a whole *do matter* because of the importance of owner identity. Thus, the study effectively tries to combine the theory of irrelevancy of the level of ownership concentration by Demtsetz (1983) with the theories of different motives and utility functions of different owner identities (see e.g. Thomsen and Pedersen, 2000 and 2003). The answers for the last two research questions provide with empirical evidence to support this hypothesis.

The results of the study should be of great interest by both academics and practitioners. From the academic point of view, the discussion around corporate governance and corporate ownership structures has been one of the hottest topics in top finance and management journals during the past decade. As to more practical contribution, understanding the current ownership environment is useful to everybody working with business issues in Scandinavia. In addition, both corporate managers and investors in Scandinavia are certainly interested in knowing whether the power and identity of controlling shareholder has any effect on the firm performance. Examining the firm characteristics associated with certain type of owners can be valuable also for current majority shareholders who seek the best way of making an exit from

their investment. Knowing which firm characteristics are valued by certain owner types could enable the current owners to screen the field of potential buyers more closely.

Naturally, the study has multiple limitations. Due to the manual data collection method, the potential human error in the collection process can bias the results. Also the small sample size will lower the depth of the analysis and the statistical significance of the results. In addition, instead of taking a static look at the ownership structures, a more comprehensive study should include time series analysis investigating the changes in company characteristics together with changes in ownership structures. This kind of analysis could try to answer the fundamental problem of any study investigating the relationship between ownership and firm characteristics: Which is the cause and which is the consequence? (see e.g. Holderness, 2003). It might be that a certain ownership structure and owner identity per se does not lead to any particular effect on firm characteristics. On the contrary, it might be that companies with certain characteristics attract certain investor types.

The above-mentioned problem of endogeneity is always present in ownership studies. This requires that the empirical results of the study should be interpreted with caution and more robust regression methods are potentially needed (see e.g. Mínques-Vera and Martín-Ugedo, 2007). In trying to relate ownership structure to firm performance and characteristics the researcher is actually trying to identify a simple relationship within a complex set of interrelationships and endogeneity can lead the researcher to see a relationship where one does not actually exits (Denis, 2001). The same applies the other way around: Firm characteristics depend on thousands of small things and without proper control, other explanatory variables will "suck" the true effect of ownership structure.

The structure of the study is as follows: Chapter 2 introduces the theoretical framework and previous empirical research on ownership structures, their determinants and their implications. Chapter 3 describes the data and the methodology used, and presents the main hypotheses of the study. The empirical findings together with the answers to the research questions are presented in chapter 4 and chapter 5 concludes and gives suggestions for further research.

2. Previous research

Academic papers on corporate ownership structures are usually related to modern *corporate governance* research that traditionally investigates the "system of laws, rules, and factors that control operations at a company" (Gillan and Starks, 2003). In order to understand the roots of academic research on corporate ownership structures, a quick review of most standard corporate governance topics is in place. In addition, major academic papers related to the observed ownership structures and their implications will be covered in the later sections.

2.1 Theory of corporate ownership and agency conflicts

2.1.1 Origin of dispersed corporate ownership

Berle and Means' (1932) book *The Modern Corporation and Private Property* established what is now known as the theory of dispersed corporate ownership where atomistic shareholders act as providers of external capital and are mostly concerned about the return and risk of their well-diversified portfolios. Berle and Means also suggested that the dispersed ownership will inevitably lead to separation of ownership and control: professional managers will have full control over the corporation and act as agents for the owners since no single atomistic shareholder has neither the ability nor incentive to run the company (Fama and Jensen, 1983). Theoretically, this separation can create severe agency as the objective functions of self-interested managers and shareholders depart from each other (see e.g. Shleifer and Vishny, 1997).

Actually, Berle and Means were not the first ones to introduce the concept of conflicts between managers the owners. Instead, it was originally (at least as far as the author knows) mentioned by Adam Smith who already in 1776 presented the following statement of professional managers in his *Wealth of Nations*: "Being the managers of other people's money…it cannot be expected that they should watch over it with the same anxious vigilance…". Over 200 years later, the same issue still fascinates academics. As Shleifer and

Vishny (1997) presented it: "We want to know how investors get the managers to give them back their money".

Berle and Means' insights about the nature of ownership and the role of managers laid foundations for "managerialist" literature of the objectives of such managers (La Porta et al., 1999). Still, what is today labeled as modern corporate governance research is no more than 30 years old (Denis, 2001). The history of corporate governance as a separate field of finance (or economics) research is often thought to have begun when Jensen and Meckling (1976) presented their theory of agency costs of outside equity. Jensen and Meckling theoretically showed that a manager owning less than 100% of the residual cash flow rights of the firm has potential conflicts of interests with outside shareholders. Since the introduction of this insight, academics "have tried to understand, define, measure and minimize these conflicts" (Denis, 2001).

2.1.2 Conflicts of interest rising from dispersed corporate ownership

Denis (2001) defines in her excellent overview of the history of corporate governance research the following three basic sources of agency conflicts between managers and atomistic shareholders:

1. Managers' desire to stay in power
2. Managerial risk aversion
3. Free cash flow

Firstly, managers are naturally interested in securing their own jobs in order to support their families and live their personal lives happily. As long as the management team is the best one available this natural tendency does not necessarily create any problems. However, there are times when the value of the company could be increased by changing the management team, and the resistance of managers to resign even if it would be in the best interest of the company creates agency conflicts.

Secondly, in contrast to assumingly well-diversified investors, managers usually have almost all of their human capital and a least some part of their financial capital tied in the company.

Consequently, managers have little incentive to take risks that might lead to the failure of the company. Since additional risk-taking can, however, be in the best interest of the shareholders who can afford to lose a small part of their total portfolio, agency conflicts emerge.

Finally, as suggested by Jensen (1986), the decision of what to do with the free cash flow available for investments can create severe conflicts of interests between managers and shareholders. Jensen defined free cash flow as cash flow generated by the firm in excess of the amount required to fund all available positive NPV projects. Theoretically, this free cash flow belongs to the shareholders but in practice the management may want to hold on to it – and thanks to their complete control over the company, the managers are generally able to do this. Then the management can, for instance, invest funds in too passive, diversifying or other way value-destroying projects in order to maximize their own utility at the expense of the shareholders.

The empirical evidence of the existence of agency conflicts is extensive. Shleifer and Vishny (1997) provide a throughout review of the most famous studies and explain that the standard empirical method is to conduct event studies that try to measure the abnormal stock price reaction around the announcement of specific managerial decisions. If the reaction to certain type of announcement is, on average, significantly negative, the researchers conclude that this particular action is not in the best interest of the shareholders and vice versa. The most famous conclusions from the event studies are, for instance, that diversified acquisitions tend to destroy value (Berger and Ofek, 1996) and that cash-rich companies spend money of value-destroying acquisitions (Harford, 1999).

2.1.3 Concentration of ownership as a solution for agency conflicts

At this point, the reader might be confused. Why is the theory of dispersed corporate ownership structure and conflicts of interest resulting from it relevant in the context of empirical work focusing on the effects of concentrated ownership? It turns out that concentrated ownership structure is suggested to be one of the most important solutions to the agency conflicts between managers and shareholders. Therefore, the bulk of academic research on corporate ownership structures is directly related to corporate governance and agency conflicts.

Denis (2001) summarizes three general solutions to the agency conflicts:

1. Boding solutions
2. Inventive alignment solutions
3. Monitoring solutions

Firstly, managers could be bonded to act according to the shareholders' interests by contractual agreements. Unfortunately, it is practically impossible to create contracts that specify allowed actions in all the potential scenarios and, as a consequence, the bonding solutions are at best only partial solutions (Shleifer and Vishny, 1997).

Secondly, instead of trying to contractually control the management, the owners might try to align the incentives of the managers better with their own incentives. If shareholders want to maximize the return on their investment, they could try to make the management benefit similarly from an increase in stock price e.g. by introducing feasible compensation schemes. Although it is not the focus of this study, the research on executive compensation is a significant sub-field of corporate governance literature.

The final general solution to agency conflicts is to closely monitor the actions of the management and make sure that they do not undertake value-destroying initiatives. The remaining question is that who the most effective monitors could be. Shareholders themselves would be the natural first choice, but this approach includes some drawbacks. Namely, shareholders often lack the industrial expertise to correctly judge the decisions of the management. In addition, even if some of the owners had the abilities to effectively monitor the managers, they probably do not have the incentives to do so. Grossman and Hart (1980) and Shleifer and Vishny (1986) pointed the importance of free-rider problem among the atomistic shareholders: The cost of monitoring the management is entirely carried by the monitoring shareholders whereas the benefits are divided evenly among all of the shareholders. Thus the cost of monitoring clearly outweighs the benefit and no rational shareholder with small ownership stake is willing to do it.

Fortunately, there are a number of other potential monitors in addition to the atomistic shareholders. They include, for example, the board of directors, creditors, and other management teams both inside and outside of the firm (Denis, 2001). However, academic literature has also alleviated the importance of large shareholders as monitors. Firstly, they can be thought to have the *incentive* to monitor the managers since they generally speaking hold a significant part of the cash flow rights and will thus benefit from the increase in firm value (Gedajlovic and Shapiro, 1998). Secondly, they often have the *ability* to monitor the managers as they can effectively control the board of directors (Fama and Jensen, 1983). In fact, the existence of controlling blockholder is one of the *internal* corporate governance mechanisms (Jensen, 1993) and, as alleviated among other by Shleifer and Vishny (1997), it can be efficiently used to align the incentives of the managers and the owners.

2.2 Ownership structures observed in the real world

Although the origin of corporate ownership research lies in the corporate governance and agency theory as described above, the focus of ownership studies has shifted from explaining the corporate governance theories to investigating ownership per se and, as a consequence, top finance journals have published the works of distinguished finance scholars focusing purely on ownership structures and their importance. Also this study will move on from the agency theory and proceed by describing the real-world findings of previous empirical studies. Still, the reader should bear in mind the theoretical context of ownership and agency conflicts as it will be revisited in section 2.4 in the context of the theoretical link between ownership structure and firm characteristics.

2.2.1 Level of concentration

In Berle's and Means' world of dispersed ownership structures two rules apply: Firstly, shareholders are well-diversified and rational risk – return optimizers. Secondly, the most important corporate goal is to maximize the value of the owners' shares (Denis, 2001). Although the above statements include multiple restrictive assumptions, a skeptical empirist quickly observes that it is the theory of dispersed corporate ownership itself that is the most restrictive one. During the past couple of decades, academics have conducted numerous empirical studies on global corporate ownership structures suggesting that a truly dispersed ownership structure is more an exception than a rule (La Porta et al., 1999).

Papers by e.g. Demsetz and Lehn (1985), Holderness and Sheehan (1988), and Holderness et al. (1999) showed that, even in the USA where the theory of dispersed ownership was born, moderate level of ownership concentration is observable. Other recent surveys including La Porta et al. (1999), Claessens et al. (2000) and Faccio and Lang (2002) have broadened the scope of the studies outside the USA. The general conclusion from all of these studies is that controlling blockholders exercise significant control in many countries. For instance, according to La Porta et al. (1999), the concept of truly widely held corporation is applicable only to USA and a couple of other rich common law countries. Instead, among the largest

companies in 27 countries around the world, only 36 % are found to be widely held[1] and when looking at some major European countries such as Italy or Spain, the share of widely held companies is much lower.

La Porta et al. (1999) also emphasize the existence of significant regional differences in the level of ownership concentration – even between countries that are geographically close to each other. Firstly, companies in the USA and Japan are generally widely held compared to their more concentrated European counterparts. Secondly, there is great deal of variation also within Europe, an example of which is the UK where all the companies used in the analysis of La Porta et al. were found to be widely held. La Porta et al. also investigate the ownership concentration among the large Scandinavian companies and find that, on average, the level of concentration of ownership is very high. For instance, when using 10% threshold for concentrated ownership, none of the sample companies from Sweden is regarded as widely held and the percentages of widely held companies is Denmark, Finland and Norway are 15, 10, and 5, respectively.

Claessens et al. (2000) follow the guidelines of La Porta et al. (1999) but focus solely on Asian companies. Their results based on ownership data of nearly 3000 companies in different East Asian countries indicate that more than two-thirds of Asian firms are controlled by a single shareholder. In addition, Claessens et al. conclude that the theory of separated ownership and control does not apply to Asian companies as the top management of about 60 % of firms that are not widely held is closely related to the controlling shareholder. However, such as La Porta et al., Claessens et al. also emphasize the magnitude of differences between different countries. They find that corporations in Japan are generally widely held whereas corporations in e.g. Thailand of Indonesia tend to have concentrated ownership.

Faccio and Lang (2002) analyze the "ultimate ownership" of 5000 corporations in 13 Western European countries. The general findings of Faccio and Lang are in line with La Porta et al. (1999) as they find that only 37 % of Western European firms are widely held (using the threshold of 20 % for concentrated ownership). Faccio and Lang investigate also Scandinavian countries and find that the general level of ownership concentration is rather

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[1] According to La Porta et al. (1999), a company is considered as widely held if no single owner holds over 20 % of the votes.

high. On the other hand, they surprisingly show that 80 percent of the 20 largest public companies in Sweden are regarded as widely held (meaning that no single owner holds more than 20 % of the total votes). As will be discussed later on, the findings of this study indicate a much higher level of ownership concentration but, for the moment, it is sufficient to say that this kinds of differences in results are not necessarily surprising in ownership studies since the quality of ownership data is often far from perfect. What makes the correct measurement of ownership structures even more difficult in countries like Sweden is the importance of what is today known as *discrepancy between ownership and control*. The world of dispersed corporate ownership (at least implicitly) assumed that the voting rights and cash-flow rights of any given shareholder should be equal. Furthermore, even if they did differ, the effect would probably be meaningless since the size of the stake of each shareholder is extremely small. In the real world, the assumption is broken as pyramid structures, cross-holdings and multiple share-classes with different voting rights enable shareholders to have different level of ownership (cash flow rights) and control (voting rights) (La Porta et al., 1999). Due to the high usage of dual-class shares, the issue is particularly relevant in Scandinavia (see e.g. Cronqvist and Nilsson, 2003).

In addition to the above-mentioned studies, papers by e.g. Thomsen and Pedersen (1997), Becht and Roell (1999), and Becht and Mayer (2001) discuss ownership structures in Europe in more detail. The main finding of all the papers is that ownership in continental Europe is relatively concentrated (with regional differences also within continental Europe) compared to USA the UK and other countries usually having a civil-law based legal system. Becht and Mayer (2001) also investigate the voting stakes of the other owners behind the largest one and find quite interestingly that the difference between ownership concentration in the US and UK and in continental Europe is evident only among the largest shareholders. On the contrary, the average voting stake of the third largest blockholder in the UK is higher than in any country in continental Europe. This suggests that while there are only a few owners in the US and UK that can exercise control without the help of other owners, there is significant potential for "coalitions" that can take the effective control. La Porta et al. (1999) reach similar conclusions when they find that even in the countries with concentrated ownership the controlling shareholders are usually alone without other significant shareholders contesting their power. Also some more recent studies have investigated the level of ownership concentration beyond the largest shareholder (see e.g. López-de-Foronda et al., 2007).

However, since the findings of these papers usually discuss also owner identity and impacts of ownership concentration, they will be discussed in more detail in the following sections.

Finally, a few academic papers have focused on more specific geographical regions. One such study is conducted by Cronqvist and Nilsson (2003) who investigate Swedish ownership structures observed in the mid 1990s. They find that the level of concentration among the listed Swedish companies is strikingly high as only about 13 % of the companies do not have at least one controlling owner holding more than 25 % of the total votes. However, the methodology used by Cronqvist and Nilsson is slightly different compared to the other major ownership surveys making the direct comparison of the results difficult. Another more focused study is conducted by Moebert and Tydecks (2007) who concentrate on German ownership structures and apply network methods to describe ownership in Germany. They show that the ownership in Germany has lately become more and more internationalized and many German companies are today strongly connected to non-German multinational companies.

2.2.3 Identity of controlling shareholders

In addition to the level of ownership concentration, academics have investigated the identities of controlling shareholders. The above-mentioned studies by La Porta et al. (1999), Claessens et al. (2000), Faccio and Lang (2002) and Crinqvist and Nilsson (2003) all examined also the identity of the controlling shareholder. The standard academic approach has been to divide the controlling shareholders in different categories based on certain attributes. For instance, Faccio and Lang (2002) outline the following six categories of controlling shareholders:

1. Family
2. State
3. Corporation (widely held)
4. Financial institution (widely held)
5. Miscellaneous
6. Cross-Holding

According to the definitions, the first category includes the founding families, other individuals and corporations that are unlisted on any stock exchange. State includes domestic or foreign national governments, municipalities, and government agencies. Corporation means another widely held public corporation and financial institution refers to widely held banks, investment management companies, insurance companies, pension funds and other financial institutions. Finally, a cross-holding is defined as a situation where the owner of the firm under review is actually controlled by the firm itself. It is important to note that Faccio and Lang (as well as La Porta et al. (1999) and Claessens et al. (2000)) all track the "ultimate ownership". This means that the researchers try to move upstream along the chain of owners and identify the true underlying owner that has the control.

In their study, La Porta et al. (1999) use ownership categories similar to those later used by Faccio and Lang (2002) with the exception of omitting the category cross-holdings. La Porta et al. find that using 20 % threshold for control, 30 percent of global companies are controlled by family (or individual) and that State control applies to almost 20 percent of the companies. The importance of financial institutions as largest owners is found to be relatively small. As to the results for Scandinavian countries, La Porta et al. show that the importance of family control is large especially in Sweden and Denmark (with families controlling 45 and 35 percent of the companies, respectively) and that governments hold significant controlling interests in Finland and Norway (with control percentage of 35 in both of the countries).

Claessens et al. (2000) provide with evidence of Asian ownership structures and owner identities in Asia. They find that family-control is the most common form of ownership in many of the sample countries, especially in Indonesia and Thailand. Furthermore, a small number of families control a vast majority of the companies. For instance, a single family controls over 16 % of all the listed corporate assets in Indonesia. Claessens et al. also show that state control is common in e.g. Indonesia, Korea and Malaysia and that the importance of financial institutions is high in Japan.

As mentioned in the previous section, Faccio and Lang (2002) investigate the ownership structures in Western Europe. They find that, similarly to Asian companies, most European listed companies are family-controlled and that the control by families is particularly important in continental Europe as opposed to the UK where most firms are widely held. Also

Faccio and Lang include companies from Scandinavia and show that families (or individuals / non-listed firms) control almost 50 % of the companies in Sweden and Finland. Similar results are offered by Cronqvist and Nilsson (2003) who investigate Swedish ownership structures and divide the controlling owners into four different categories: *Founder Family, Non-Founder Family, Corporation and Financial Institution.* Their main finding is that individuals are the dominant controlling shareholder category in Sweden as over two thirds of the controlling shareholders are identified as either Founder Families or Non-Founder Families.

The findings of empirical ownership studies generally emphasize the country-specific differences in the relative importance of different controlling shareholder identities. For example, financial institutions are important shareholders particularly in the USA and UK, whereas in most continental European companies families and other corporations hold significant blocks (Becht and Mayer, 2001). Germany has long been taught as a bank-centered corporate system but Moebert and Tydecks (2007) show recently that although canks still are significant stakeholders, the average size of their voting stake has decreased rapidly. Some European countries (including the Scandinavian countries) also experience high levels of state-ownership. Studies also point out the heterogeneity among the sizes of average blocks held by different owner identities. On average, financial institutions tend to hold small stakes whereas the stakes of families and governments are usually relatively large (Thomsen and Pedersen, 2000; Becht and Mayer, 2001).

2.3 Determinants of ownership structure

The existence of concentrated ownership structures in many countries has been accepted as an empirical fact. However, the determinants of ownership concentration have been a widely debated topic among the academics. What are the driving forces that lead to observed differences in ownership structures across countries? Are there some other factors explaining differences across firms and industries? This section addresses both of these questions.

2.3.1 Determinants of differences across countries

As explained in section 2.1., the traditional corporate governance literature considers concentration of ownership as an important *internal* corporate governance tool. This tool is believed to be the most valuable and thus needed the most in the absence of other corporate governance mechanisms. According to Jensen (1993), the other main categories of these mechanisms in addition to the internal control such as ownership concentration are a) legal and regulatory mechanisms and b) external control mechanism. As both the level legal protection of shareholders and the functionality of external control mechanisms (i.e. the functionality of the corporate takeover market) vary from country to country, academics have explained the differences in observed ownership structures with the relative importance of concentration in ownership as a corporate governance mechanism. Consequently, it is hypothesized that countries with poor legal shareholder protection and less developed capital markets (reducing the threat of a takeover) should experience higher level of ownership concentration (La Porta et al., 1997).

La Porta et al. (1998 and 1999) confirm empirically that widely held corporations indeed are more common in countries with good legal shareholder protection. However, they take a slightly different stand when theoretically explaining the empirical observation. Firstly, they criticize the traditional view of agency conflicts between managers and owners and argue that the potential expropriation of minority shareholders by controlling shareholders is more severe problem in many countries. Following this logic they reason that in countries with high level of shareholder protection the current controlling shareholders have little fear of being expropriated in the event that they ever lose their control through a takeover. Consequently,

having a high voting stake is not regarded as important as in countries with poor legal protection and controlling shareholders can sell their shares and diversify their portfolio. On the other hand, in countries with poor protection of minority shareholders, the loss of corporate control can be costly since the new majority shareholders can expropriate the minority shareholders due to the lack of legal protection. Thus the current controlling shareholders are inclined to hold more voting rights in order to assure that they will remain in the power also in the future.

La Porta et al. (1998) also associate the differences in level of shareholder protection with the general type of legal system in different countries using their own classification of different kinds of "systems". They regress ownership concentration on the type of legal system and find that countries with civil-law based legal system (such as the USA) tend to have stronger legal protection for investors and, consequently, lower levels of ownership concentration. Equivalently, countries with common-law based legal system tend to experience higher levels of ownership concentration.

Bebchuk (1999) formalizes the same argument by presenting a rent-seeking theory where he suggests that the most important determinant of differences in ownership structures is the magnitude of *private benefits of control* of the controlling shareholder. If holding a controlling stake is regarded as more valuable option compared to holding a more diversified portfolio, a widely held ownership structure after an IPO cannot be a stable equilibrium condition as someone can purchase a block of shares at a premium. Bebchuk's theory is consistent with the arguments of La Porta et al (1997, 1998 and 1999) in the sense that poor legal protection can be thought to result in higher private benefits of control.

On the other hand, the theory of explanatory power of legal systems in the context of ownership structures has also been questioned. Most recently, Heugens and Otten (2007) argue that the traditional split of corporate governance systems into Anglo-American or Eurasian is too simplistic and suggest for more detailed classification. In addition, Coffee (2001a) argues that since the current state of dispersed ownership in the USA was established during the 19th century when the level of legal protection was far from modern standards it cannot be the true determinant of ownership structure. Coffee (2001b) also points out that regardless of the excellent quality of the legal system, high level of ownership concentration

is still observable in Scandinavia. Therefore, he suggests that perhaps social norms rather than legal protection of investors play a critical role in the formation of country-specific differences in ownership structures. Also Roe (2000) explains regional differences in ownership structures slightly differently. He suggest that political rather than legal systems contribute to the differences in ownership structures and further argues that social democratic systems increase agency conflicts between owners and managers resulting in higher observed levels of ownership concentration. On the other hand, more market-driven systems that enable more efficient functionality of alternative corporate governance mechanisms do not require high levels of ownership concentration to tackle the agency conflicts.

2.3.2 Determinants of differences across firms and industries

In addition to the discussion of the importance of legal system in determining optimal ownership structure, academic literature has offered many alternative explanations to the differences between observed levels of ownership concentration. For instance, the traditional corporate governance set-up by Jensen and Mecklin (1976) offers a micro-level explanation of optimal ownership structures. Jensen and Mecklin suggest that the choice of a privately optimal ownership structure involves a trade-off between risk and incentive efficiency. On the one hand, larger owners have a stronger incentive to monitor managers but, on the other hand, the owners' portfolio will become more undiversified and its risk will thus increase together with ownership stake. Therefore, the privately optimal level of ownership will vary according to the company-specific risk associated with undiversified portfolio.

Demsetz and Lehn (1985) continue in the guidelines of Jensen and Meckling (1976) and hypothesize that larger firm size is associated with smaller firm-specific risk and should therefore lead to lower ownership concentration. They also argue that in addition to the size of the company, a "noise" component (proxied with standard deviation of ROE) will affect the risk and uncertainty associated with a company and aggravate the agency conflicts between owners and managers. Demsetz and Lehn suggest that the relationship between noise and ownership concentration should be quadratic, i.e. at moderate levels of uncertainty the benefit of additional monitoring is high and the ownership concentration is likely to increase but at some point the costs of uncertainty become too large and the concentration of ownership should start to decline.

Probably the most popular academic explanation to the existence of block ownership – despite the fact that diversification would be a more efficient solution at least in theory – is the existence of *private and shared benefits of control.* According to Hodlerness (2003), the private benefits of control refer to the possibility of the blockholders to consume corporate resources that are not shared with the minority shareholders. On the other hand, the shared benefits of control arise from the blockholders ability to monitor the management and reduce the agency conflicts between managers and owners. Ceteris paribus, this will increase the firm's expected cash flows which will benefit also the minority shareholders (Holderness, 2003). Thus the optimal level of ownership concentration varies together with the magnitude of private and shared benefits of control.

In addition to individual corporations, different industries may have different average "optimal ownership structures" since the nature, complexity and "dynamism" of the activities carried out by the company may influence the chosen level of ownership concentration. Li and Simerly (1998) argue that this results in different companies having different marginal effects of additional monitoring of management. The activities of some companies and industries are relatively transparent and easy to monitor, which means that the benefit from additional monitoring is small. Li and Simerly suggest that this will generate differences in observed levels of ownership concentration across firms and particularly across different industries. Also Nickel et al. (1997) present a similar view as they point out that the magnitude of agency conflicts will vary according to the industry and that less competitive industries are more likely to suffer from more severe conflicts of interest. The natural implication is that less competitive industries should have more concentrated ownership structures. Not surprisingly, many studies investigating the effects of ownership concentration usually control the results with industry dummies and e.g. Gillan and Starks (2003) emphasize the importance of separating between industry and country effects.

Also other firm specific attributes such as firm value may have an impact on the observed ownership structures. Thomsen and Pedersen (2003) explain that, on the one hand, firm value might affect ownership in the sense that a high enough price can encourage large blockholders to sell their shares and/or the company to issue more shares and, on the other hand, low valuation level will make the company more vulnerable to takeovers. In sum, this implies that

lower than average valuation should lead to more concentrated ownership. However, what is known as the *control preference argument* suggests that the relation could be exactly the opposite. Firstly, the pecking order theory of corporate finance by Myers and Majluf (1984) suggests that issuing additional equity to finance investments is the least preferred option to management (or whoever controls the company) so that the dilution of ownership during times of high valuation might not feasible after all. Secondly, even if the company issued new equity, the higher the value of the company, the less additional equity does it have to issue in order finance a given level of investment (La Porta et al., 2000). This can potentially lead to a situation where higher valuation actually results in increased ownership concentration. Despite the direction of the dependency, if firm value indeed is a determinant of ownership structure, ownership concentration then becomes an endogeneous variable when investigating the relationship between firm performance and concentration of ownership (Denis, 2001). This can potentially complicate statistical analysis significantly.

All in all, it is important to note that this paper takes no stand whether the legal system and the level of shareholder protection or any other of the above-mentioned theories is a true determinant of the differences in observed ownership structures across countries, firms and industries. In fact, since the dataset used in this study is obtained from countries with very similar legal systems and levels of shareholder protection, the potential effect of legal protection is not particularly relevant. Rather, I take the average level of ownership concentration in Scandinavia for granted and simply focus on analyzing its implications.

2.4 Effects of ownership structure

In addition to focusing on the determinants of differences in observed ownership structures around the world, the academic research on corporate ownership has shifted focus on examining the potential effects of concentrated ownership. Another even more recent trend has been to introduce the concept of owner identity and also to investigate the impact of a powerful second largest owner.

2.4.1 Theory of ownership concentration and firm performance

The level of ownership concentration differs around the world, but does it make any difference? In particular, does ownership structure have an effect on firm characteristics, strategies and performance? The answer to the question has been controversial among the academics for a long time and is extremely relevant for the purposes of this study. Any academic paper trying to examine the implications of different ownership structures has to be able to defend itself against the traditional critique of Demsetz (1983). He argues theoretically that the ownership structure of a firm is "an endogenous outcome of competitive selection in which various cost advantages and disadvantages are balanced to arrive at equilibrium". In other words, Demsezt suggests that each company is operating with an ownership structure that maximizes the profits of the owners and that if value-maximizing owners could increase their profits by changing ownership structure, they would have already done. He also wonders that if owners could increase their profits by rearranging their portfolios, why don't they do so?

Thomsen and Pedersen (2000) provide with excellent counter-arguments to Demsetz's critique. They point out that, as originally showed by Shleifer and Vishny (1986), the existence of free-rider problem in monitoring the management may distort the incentives of shareholders and result in other than equilibrium-level of ownership concentration. In addition, the ability of minority shareholders to free-ride per se can result in changes in corporate valuations due to changes in ownership concentration. Finally, and the most importantly, Thomsen and Pedersen argue that Demsetz's theoretical assumption of value-maximizing shareholders may not be correct. Different kinds of owners can have different

goals and their utility functions might differ which, again, may result in level of ownership concentration that *does not* maximize the value of the company.

The theoretical link between ownership structure and firm characteristics can be established using the traditional agency cost framework from corporate governance literature. According to the theory, the separation of ownership and control can lead to agency conflicts between management and shareholders that affect the value of the firm. Also empirical evidence supports the view that agency costs indeed have effect on corporate performance (Shleifer and Vishny, 1997). On the other hand, concentration of ownership has been suggested as one potential solution to the agency conflicts as large shareholders are thought to have the incentives and the abilities to effectively monitor the management (Thomsen and Pedersen, 2000, Denis, 2001). Thus, if agency conflicts have adverse effects on the performance of a company and ownership concentration in turn reduces agency conflicts, increased level of ownership concentration will logically have a positive impact on firm performance.

On the other hand, the effect of concentrated ownership is positive only under the assumption that the controlling shareholders aim to maximize the value of the company instead of simply enjoying *private benefits of control* (Barclay and Holderness, 1989). Unfortunately, this fundamental assumption of value-maximizing owners from Berle and Means' world is not always true as dominant owners may have their own personal goals that are not in line with the value-maximizing minority investors' interests. In this case, concentration of ownership might actually create new kinds of agency conflicts between different shareholder categories (La Porta et al., 1999). For instance, controlling shareholders can use insider information to their own advantage or expropriate minority shareholders in many different ways (Sheifer and Vishny, 1997; La Porta et a., 2000). This kind of behavior will create new agency conflicts between the controlling shareholders and the minority shareholders resulting in adverse effect on firm performance. Burkhart et al. (1997) support the same argument from slightly different perspective. They suggest that an excessive concentration of ownership leading to close monitoring of management may be undesirable also when lots of profitable growth opportunities are available. Under tight watch of controlling shareholders, the managers will not undertake new projects as easily although they would be profitable.

Thomsen and Pedersen (2000) explain that these alternative forces can result in bell-shaped (i.e. non-linear) utility function of ownership concentration. The theory behind the shape of the function presented by Morck et al. (1988) is as follows: at low and moderate levels of ownership concentration the benefits of improved monitoring dominate the adverse effects of concentration and the value of the company improves. However, as the level of ownership concentration increases, the agency costs between the controlling and the minority shareholders start to outweigh the monitoring benefits and the value of the company starts to decline. Demsezt and Lehn (1985) also suggest that the point where the effect of the additional ownership concentration is zero is called the *value maximizing optimum.* All in all, whatever the true relationship between ownership concentration and firm performance is, the current academic understanding is that theoretical size and direction of the impact depends largely on the current level of ownership concentration (Thomsen and Pedersen, 2003). This naturally complicates statistical analysis

The *discrepancy between ownership and control* introduced in section 2.2 can also be hypothesized to influence firm performance. Discrepancy between ownership and control means that the concentration of control rights and the concentration of cash flow rights are separated. Jensen and Meckling (1976) together with Shleifer and Vishny (1986) argue that the controlling shareholder's incentive to expropriate the minority shareholders varies with their share cash-flow rights and it is highest when the difference between voting rights and cash flow rights is large. The rationale is that the incentive of controlling shareholders to effectively monitor the management and try to maximize profits is highest when they have substantial cash flow rights in addition to voting rights. If this is not the case, the majority shareholders might have incentives to act in their own best interests at the expense of the minority shareholders holding proportionally more cash flow rights (Grossman and Hart, 1988). Consequently, the higher the discrepancy between ownership and control, the higher the agency costs of concentrated ownership and, ultimately, the more negative the impact on firm performance.

Some of the most recent academic papers have presented the view that the existence of other major shareholders in addition to the controlling shareholder should not be ignored when investigating the effect of ownership concentration (see e.g. Bedo and Ács, 2007; López-de-Foronda et al., 2007). Maury and Pajuste (2005) develop a simple theoretical model in which

multiple blockholders can have two different roles in firms. On the one hand, another significant shareholder can challenge the power of the largest owner and reduce the extraction of private benefits of control. This can be hypothesized to have a positive impact on firm performance. Alternatively, many significant shareholders can form a coalition to extract more private benefits of control and share those benefits. This would theoretically have an adverse effect on firm performance. Bedo and Ács (2007) also support the view of potentially negative impact by hypothesizing that the existence of multiple powerful shareholders could create tensions and complicate decision making processes.

The impact of ownership concentration on firm performance might also depend on cultural and legal factors (*system effects* hereafter) (Gedajlovic and Shapiro, 1998). The argument is closely related to the theory of level of legal protection as a determinant of concentration of ownership introduced in section 2.3.1. Since the importance of large shareholders as a mechanism of corporate control is hypothesized to be more important in civil-law countries than in common-law countries (where capital structure and managerial share ownership are assumed to be the most efficient means of control), also the benefits of concentrated ownership can be expected to be higher in civil-law countries (López-de-Foronda et al., 2007). Similarly, the value-enhancing impact of the second significant shareholder can be expected to be more important in civil-law countries.

A final note about definitions is in place. Vast majority of the general theories of the effects ownership concentration use the definition "firm performance" although what is usually meant is the value of the firm (measured by either M/B or Tobin's Q). The definition might be feasible in the sense that different aspects of firm performance will be reflected in its value. This study will try to associate ownership concentration will a broader set of performance measures, but firm valuation measured by M/B multiple is given additional emphasis in the analysis. A more detailed discussion of the hypothesized relation between ownership concentration and firm performance will be delayed until the Hypotheses –section in chapter 3.

2.4.2 Theory of owner identity and firm performance

Thomsen and Pedersen (2003) claim that academics have for too long a time associated the term ownership structure directly with the term ownership concentration (traditionally measured as the first owner's share of total votes). They argue, following the guidelines of Short (1994), that an appropriate measure of ownership structure must include not only the percentage of votes held by major owners but also their identity. But why would the owner identity make a difference?

The utility functions of different types of owners could differ from each other which can thus intensify the agency conflicts between majority and minority shareholders described in the previous section (Thomsen and Pedersen, 2000). According to the agency theories, this will be reflected in firm performance. Secondly, different owners might simply have completely different interests and goals that are reflected in the actions of the corporation if the owner is able to exercise control in the company. Thomsen and Pedersen (2000) also emphasize that even if all the different types of owners would like to purely maximize the value of the firm in the spirit of Berle and Means, they would in practice experience different preferences with regard to risk and the timing of cash flows due to illiquidity, taxes, and other market imperfections.

Thomsen and Pedersen (2003) present a formal model assessing the costs and benefits of different controlling shareholder identities. The model relying mainly on the work of Henry Hausmann (1988 and 1996) states that different stakeholders of the firm (such as employees, managers, investors and creditors, suppliers and clients, and government) have to face different *transaction costs* due to market imperfections. The stakeholders could *internalize* some of these transaction costs related to market contracting by becoming the owners of the company. However, also ownership includes costs such as monitoring and risk-bearing costs and the total effect of a certain ownership structure (including owner identity) equals the cost savings associates with internalizing some market contracting costs deducted by the costs of ownership *and* the opportunity cost of not being able to internalize the transaction costs with the best alternative owner. For instance, if managers become owners they will benefit from not having to hire outside managers but they have to face the costs associated with ownership

and the company has to suffer (i.e. to pay costs) from not being able to raise equity capital. If the combined costs exceed the benefits, the performance of the firm will suffer.

Consequently, Thomsen and Pedersen (2003) effectively claim that owner identity is an important factor (perhaps even more important than the pure level of ownership concentration) affecting corporate decisions and thus firm performance. But what are the potential implications of having certain type of controlling shareholder? Following section comments separately the hypothesized effects of different major owner identities classified according to Faccio and Lang (2002):

Government ownership is often associated with poor performance in terms of conventional performance measures. Most common argument to explain the finding is provided by e.g. Hart et al. (1997) who suggest that governments tend to outweigh political goals such as employment or low output prices relative to pure profitability. Another point is that, at least theoretically, the government ownership is rational only when it is *not trying* to maximize profits since government is assumed to own companies only in the case where pure profit-seeking behavior leads to market failure and the government has to intervene (La Porta et al., 2002). The real-world applicability of the argument can be questioned as government-owned companies e.g. in Scandinavia operate in a wide range of different industries, but theoretically it implies that government-owned companies should be less efficient. On the other hand, it does not suggest whether it is the government ownership per se that makes the company less efficient. Finally, there are also some arguments that support the view that government ownership might have also positive consequences. For instance, state-owned companies might be less cash constraint and receive funds at a subsidized rate and receive special governmental protection such as entry barriers imposed against competitors (Thomsen and Pedersen, 2003).

Ownership by *financial institutions* is usually associated with positive impact on corporate performance. Thomsen and Pedersen (2000) explain that this is due to the fact that financial institutions are often associated with low risk-aversion (due to sufficient diversification) and preference for returns and liquidity. However, since financial institutions tend to hold rather small stakes compared to other shareholder identities, one can question the institutions' ability to effectively monitor the management and overcome the adverse consequences of agency

conflicts suggested by the traditional corporate governance literature. Other concerns are that the bottom-line oriented pressure to maximize the value of their investments can drive e.g. fund managers to focus too much on short-term results (Brown et al., 1996) and that institutional institutions might be imperfect monitors due their own internal agency problems (Gillan and Starks, 2003). Finally, not all financial institutions are similar. For instance, pension funds in Europe often have links with the government which might lead them worry about political concerns (Woidtke, 2002). Brickley et al. (1988) differentiate between different types of financial institutions by their level of pressure-sensitivity. Their rationale is that pressure-sensitive institutions such as banks and insurance companies are those with potential business relations with the company as opposed to pressure-insensitive investors such as pension funds and mutual funds. Brickley et al. hypothesize that pressure-sensitive institutions are more likely to passively support the management and be less active in corporate decision making.

Family ownership can lead to more conservative strategies and risk aversion due to poor diversification and constraint capital (Fama and Jensen, 1985). On the other hand, family ownership is often associated with long-term ties and long investment horizon which can have favorable impacts. In addition, since controlling individuals act directly for their own behalf (contrary to the other major owner categories who are actually agents for some ultimate stakeholders), they have theoretically the most efficient direct incentives to run the company as well as possible (Thomsen and Pedersen, 2003). The same incentives apply also the other way around since families are the often hypothesized to be the most inclined to enjoy from private benefits of control and expropriate minority shareholders which can result in lower market valuation (see e.g. La Porta et al., 1998). Villalonga and Amit (2006) suggest that families are actually the only category of owners that have the incentive to extract private benefits of control since the benefits extracted by e.g. financial institutions will be divided among too many underlying owners to make the extraction profitable. Following the same logic, they argues that families are also the only owner identity that truly has the incentive to monitor the management.

Finally, ownership by another *corporation* is conceptually difficult to categorize. Theoretically, companies might benefit from having internalized some of its transactions with the corporate owner and business group membership may facilitate knowledge transfer and, at

least in the case the owner is a large corporation, the existence of internal capital markets and the parent's borrowing power can increase the amount of available capital. On the other hand, corporate ownership includes also costs such as loss of flexibility and risk of deficient mutual monitoring. Also the agency conflicts between the dominant corporate owner and minority shareholders may be significant since corporate owners can expropriate the minority shareholders easily by e.g. forcing the company to do below-market price transactions with the other members of the same business group (Thomsen and Pedersen, 2003).

Regardless of the owner identity, the existence of system effects (i.e. differences across geographical regions) emphasized recently by both Thomsen and Pedersen (2003) and López-de-Foronda et al. (2007) can potentially affect the relationship between owner identity and firm performance. The differences in observed owner identities across countries are significant which may per se imply that certain type of owners are preferred in certain regions since they have a positive impact on firm performance whereas the impact could be significantly different in another region. Therefore, empirical conclusions drawn from the observed effect of a certain owner identity on firm characteristics in one legal and cultural system are not necessarily applicable to other systems.

2.4.3 Empirical evidence on the effect of ownership concentration

Earlier empirical research on the impacts of ownership concentration used to approach the question from corporate governance standpoint, i.e. whether ownership concentration has an impact on the adverse consequences of agency conflicts between management and shareholders. The general conclusion is that ownership concentration indeed appears to reduce some of the adverse effects associated with value-destroying managerial behavior. For instance, Amihud and Lev (1981) find that companies controlled by large blockholders are less likely to engage in (value reducing) unrelated acquisitions. Also the majority of other findings, such as the positive link between ownership concentration and the sale of asset divestitures (Bethel et al., 1998) support the predictions of agency theory, although some exceptions do exists (see e.g. Lane et al., 1998).

However, even though ownership concentration indeed appears to reduce the traditional agency costs, it may also create new costs as explained in section 2.4.1. Consequently, a line

of empirical research more relevant for the purposes of this study has investigated the relationship between ownership structure and firm performance – commonly proxied by valuation measures such as Tobin's Q or M/B multiple. Most of the earlier studies of this type using single-equation regression models find a slightly positive or insignificant relationship between the level of concentration and a chosen performance measure (Short, 1994). For instance, Demsezt and Lehn (1985) estimate a simple linear relationship between profit rate and ownership concentration and find no evidence of dependency in compliance with the theory of the irrelevancy of ownership structure by Demsezt (1983). Similar results are obtained by Holderness and Sheehan (1988).

Contrary to the previous studies, Morck et al. (1988) use a non-linear regression specification to regress management ownership on firm performance and find that valuation of a company measured by Tobin's Q rises in the range of management ownership between 0 and 5 percent and start decline afterwards (actually, Morck et al. also find some evidence that the company value would start to increase again after 25 percent ownerhsip), which is line with the hypothesis of bell-shaped utility function of ownership concentration. In other words, concentration of ownership is first associated with an increase in market value and after a certain thresholds the adverse concentration effects start to outweigh the benefits and valuation starts to decline. The findings of Morck et al. was subsequently confirmed by McConnell and Servaes (1990) who used a broader set of US firms in their analysis.

Thomsen and Pedersen (2000) conduct an empirical study of over 400 largest European companies and find evidence that the relationship between ownership concentration and market valuation is indeed non-linear, i.e. the M/B multiple increases together with level of ownership concentration and starts to decline at some point. However, the range of positive concentration effect is much longer than that indicated by Morck et al. (1988) as the valuation starts to decline only after the ownership stake of the largest owner exceeds 80 %. The general positive connection between ownership concentration and firm value found by Thomsen and Pedersen (2000) in Europe is partly confirmed by Claessens et al. (2002) in Asian context. Claessens et al. investigate the effects of ownership concentration using East Asian data and find that concentration of *cash flow rights* results in higher M/B multiple.

Despite the findings of Thomsen and Pedersen (2000) and Claessens et al. (2002) the overall evidence is still mixed and the relationship between ownership structure and corporate performance has not been fully established (Holderness, 2003). One of the main problems, as discussed in section 2.3.2, is the endogenous nature of ownership concentration explaining company valuation. Thus, the results obtained using traditional single-equation regression models might not be robust. To overcome this challenge, some papers have investigated the relationship between ownership and firm performance using simultaneous equations models. Theoretically, this allows for controlling the potential feedback mechanism from firm value to the ownership concentration (i.e. to take into account that in general firms with lower valuation might attract controlling shareholders).

The findings of the studies of this type generally suggest that the relationship between ownership concentration and firm performance is insignificant. Cho (1998) focuses on the relation between management ownership and Tobin's Q and finds out that Q-values have a positive impact on management ownership that has a significant impact on investment which, in turn, has a positive effect on the Q-value. However, the direct effect of management ownership on Tobin's Q after taking into account the simultaneous equations nature of the link between is found to be insignificant. The findings of Cho (1998) are also confirmed by e.g. Himmelberg et al. (1999) and Demsetz and Villalonga (2001). In contrast to Cho, Demsetz and Villalonga (2001) study also the effect of outside ownership concentration ownership and find no significant relationship. On the other hand, they find that Tobin's Q has a significant and negative effect on ownership concentration.

An important point for the reader to note is that all the-above mentioned studies with the exception of Thomsen and Pedersen (2000) and Claessens et al. (2002) used US data in investigating the relationship between ownership concentration and firm performance. However, due to the differences in legal system and the importance of system effects discussed in 2.4.1, the global generalization of these US based findings is ambiguous. Thomsen and Pedersen (2000) provide with evidence that the European relationship between ownership structure and firm performance would be significantly positive and thus very different from the relationship observed in the USA, but the relatively simple nature of the regression model used lowers the reliability of their results. Consequently, Thomsen and Pedersen (2003) continue their quest to examine the effect of ownership structures on Tobin's

Q in Europe using a potentially more robust simultaneous equations model. The main finding of Thomsen and Pedersen (2003) is that concentrated ownership indeed has a significant positive impact on firm value in Europe – even after controlling for the endogenous nature of ownership concentration. Thomsen and Pedersen conclude that this is strong evidence that the importance of concentrated ownership in Europe is fundamentally different from the USA.

Also the most recent simultaneous equations analysis of the effect of ownership concentration in Europe conducted by Mínquez-Vera and Martín-Ugedo (2007) support the findings and hypotheses of Thomsen and Pedersen (2003). Mínquez-Vera and Martín-Ugedo use Spanish data in order to investigate the relationship between ownership and Tobin's Q and find that higher concentration of ownership has a positive impact on firm value after controlling for the potential impact of firm value on ownership concentration. They conclude that the different result compared to many previous studies must be due to systematic differences between corporate governance systems in the USA and in continental Europe.

Still, there are some studies using European data and simultaneous equations models that conclude differently. For instance, Zhang (2004) uses the European dataset of Faccio and Lang (2002) to investigate whether ownership concentration affects different firm policies (divided policy, leverage, diversification and earnings management) and firm performance (measured by return on assets and M/B multiple). In contrasts to Thomsen and Pedersen (2003), Zhang (2004) concludes that level of ownership concentration has no effect on ROA and a *negative* effect on M/B multiple. On the other hand, Zhang agrees with Thomsen and Pedersen on the fact that the importance of ownership structure is differs across geographical regions as he also investigates another sample in Asia finds results significantly different from the ones obtained with European data. Cronqvist and Nilsson (2003) provide with similar results to those of Zhang using data of Swedish companies. They argue that the concentration of ownership is associated with significantly lower Tobin's Q even after controlling for potential endogeneity. Consequently, the academic consensus about the ultimate effect of ownership concentration is yet to be reached.

Zhang (2004) also investigates the effect of the combined effect of the largest owners of a company instead of focusing solely on the existence of one controlling shareholder, but finds the impact of the second largest significant shareholder to be insignificant. Despite his

findings, other recent papers investigate the same issue. Bedo and Ács (2007) test the existence of "coalitions" among the three largest owners and evaluate the impact of different levels of ownership concentration among them. They conclude that existence of other significant blockholders behind the controlling largest one actually has a *negative* impact on firm performance (measured by ROE and sales per employees –ratio) and suggest that the result is due to competing shareholders' adverse impact of on corporate decision making. On the other hand, Maury and Pajuste (2005) find that the contestability of the largest shareholders power has *positive* effect on firm value measured by Tobin's Q and that firm value increases when votes are divided more evenly among the shareholders. López-de-Foronda et al. (2007) use a sample of more than 1000 European companies and find that a single controlling owner holding over 50 % stake of the total votes is associated with lower M/B multiple. However, if another significant owner is present and the *combined* stake of the two exceed 50 percent, M/B multiple increases significantly. Like Thomsen and Pedersen (2003) and Zhang (2004), also López-de-Foronda et al. emphasize that the effect of ownership structure on firm performance depends on the legal and cultural context. To support their hypothesis, López-de-Foronda et al. rerun their initial regression investigating the effect of second significant shareholder this time separating countries with civil-law based legal systems from those with common-law based legal systems. Their results indicate that the positive impact of second significant shareholder is indeed present only in common-law countries where the problem of expropriation of minority shareholders is expected to be higher.

As mentioned in section 2.4.1, when measuring the relationship between ownership concentration and firm performance, academics have usually proxied performance with some valuation measure (such as Tobin's Q or M/B multiple). However, one could expect ownership concentration to have effect also on other firm characteristics and policy decisions. While the earlier studies about agency conflicts associate (director) block ownership with e.g. lower diversification as discussed in the first paragraph of this section, also some more recent papers have studied the relationship between ownership concentration and other firm characteristics. For instance, Thomsen and Pedersen (2000) associate ownership concentration with higher return on assets but find no effect on sales growth. Cronqvist and Nilsson (2003) present one again the exactly opposite result and show that ownership concentration has a *negative* impact on return on assets. Bedo and Ács (2007) find that

concentrated ownership results in slightly higher return on equity (although not statistically significantly) but lower operational efficiency.

Finally, some studies have also addressed the question of discrepancy between ownership and control, i.e. that the controlling shareholders hold a higher proportion of voting rights than cash flow rights. For example, Morck et al. (2000) associate deviation of voting rights and cash flow rights with poor firm performance. Claessens et al. (2002) confirm the result using East Asian data. They show that the difference between control rights and cash flow rights held by the largest shareholder is associated with value discount and that the discount grows as the difference between ownership and control widens. In addition, Faccio et al. (2001a and 2001b) and Zhang (2004) show that discrepancy between ownership and control can also have a significant impact on firm policies such as dividend payout ratio and leverage ratio. One notable exception among the empirical papers investigating the discrepancy between ownership and control is provided by Cronqvist and Nilsson (2003) who study Swedish companies and find that only the level of voting right concentration affects firm value whereas the difference between voting rights and cash flow rights has no additional impact.

2.4.4 Empirical evidence on the effect of owner identity

As the majority of earlier studies on ownership concentration focused on management ownership (probably not surprisingly, since the majority of studies are based in the USA and the agency conflicts between managers and atomistic shareholders have always been emphasized in the US corporate governance context), concept of the identity of the controlling shareholders was neglected for a long time. Holderness and Sheehan (1988) where one of the first ones to suggest the potential importance of owner identity, but the number of empirical studies investigating its implications is still rather limited. Most of available studies have used a classification of major shareholder identities similar to that used by Faccio and Lang (2002) presented earlier. This section will follow the same logic and describe the most common findings of the effects of each major owner identity separately.

Ownership by *Government* has usually been empirically connected with lower than average performance. For instance, D'Souza and Megginson (1999) study privatizations in 28

countries around the world. Their main finding is that, after privatizations, the formerly state-owned companies start to perform much better in terms of profitability and operational efficiency. Also the results by Thomsen and Pedersen (2000 and 2003) show that government ownership is associated with lower M/B multiple. Chen et al. (2008) conduct an interesting study in completely different legal and cultural environment and show that government ownership in China is associated with significantly better firm performance than private ownership. The result reminds of the difficulty of generalizing findings of ownership studies globally.

The effect of *Family* ownership has received somewhat more attention in the literature than the effects of other controlling shareholder identities, especially during the past few years. Still, there is little consensus over the empirical findings. McConaughy et al. (1998) find a positive effect of family ownership on firm value and the result is confirmed in Scandinavian context by Mishra et al. (2001) who use a sample of Norwegian companies in their study as well as Cronqvist and Nilsson (2003) who investigate ownership structures in Sweden. On the other hand, some studies have found the relationship to be insignificant (see e.g. Jayraman et al., 2000; Thomsen and Pedersen, 2003) and some even negative, an example of which is Morck et al. (2000) who associate second generation family ownership with lower asset and stock return. Interestingly, Thomsen and Pedersen (2000) find that family-controlled companies have experienced higher rates of sales growth than companies controlled by other types of owners which is inconsistent with the prediction of risk-averse and poorly diversified families by Fama and Jensen (1985). Among the most recent evidence of family ownership are papers by Anderson and Reeb (2003), Maury and Pajuste (2005), Maury (2006), and Villalonga and Amit (2006). Major findings of these studies are e.g. that family-control is associated with significant private benefits of control since the existence of second significant shareholder family-owned corporations has a significantly positive effect on firm value (Maury and Pajuste, 2005), that the effect of family-control depends on the level of legal protection (i.e. system effects) and that the effect of family-ownership depends whether or not the founder is still in charge of the company (Villalonga and Amit, 2006).

All in all, empirical evidence about the impact of family ownership is mixed. One potential explanation is the fact that people are not always talking about the same thing when they are referring to "family ownership". Some studies investigate the effects of control by founding

family, some by CEO and some include all individual owners. In this study, I choose the last alternative and include all individuals under the category *Family.* Another explanation to heterogeneous results is provided by Claessens et al. (2002) who observe that although the concentration of *cash flow rights* in the hands of family-owners leads to increase in value, excess concentration of *voting rights* (that is, the discrepancy between ownership and control) results in significant negative value-effect. As most of the studies simply concentrate on the percentage of voting rights held, they run in the risk of missing a crucial determinant of the impact of family ownership.

Majority of academic papers investigating the importance of owner identity have found ownership by *Financial institutions* to result in improved company performance (usually measured by firm value). In line with the earlier findings of Levin and Levin (1982) and Nickel et al. (1997), Thomsen and Pedersen (2000 and 2003) investigate the relationship between ownership concentration and M/B multiple and conclude that positive relation between ownership concentration and valuation is strongest when the largest shareholder is financial institution. Cronqvist and Nilsson (2003) find that out of all the different owner identities, the effect of financial institutions as controlling owners is the *least* negative. However, as pointed out in section 2.4.2, not all financial institutions are similar. A separate and rather prominent line of research has investigated the performance of companies with close ties to *banks*. Usually, Japan has been the focus area of the studies since it enables an easy comparison between *keiretsu* (bank related) and non-*keiretsu* companies. Earlier studies tend to find positive effects such as fewer credit constraints and more financial flexibility during times of financial distress (Becht and Meyer, 2001) but, on the other hand e.g. Kang and Stultz (1997) argue the bank-related firms performed much worse than average during the Japanese recession in the early 90s. Also Franks and Mayer (1998) find similar results in Germany. Thomsen and Pedersen (2000) investigate banks as a separate sub-category of financial institutions and find that the effect of banks as major owners is similar to other types of institutions (that is, positive). In addition to banks, e.g. pensions fund ownership has been studied separately. Woidtke (2002) finds that the effect of pension fund ownership on firm performance depends on whether it is public or private – private pension funds resulting in a positive impact and public pension funds resulting in a negative impact on Tobin's Q.

Although there is relatively little direct evidence of the relationship between the control by another (non-financial) *Corporation* and firm performance, some empirical evidence is provided by the field of finance reserach suggesting that diversification by conducting unrelated acquisitions tends to destroy value (see e.g. Lins and Servaes, 1999). This naturally implies that in the cases where the corporate owner operates in unrelated business the value of the subsidiary should be lower than in case it would be independent. However, there is some evidence that the importance of business groups varies by country, i.e. the effect of belonging to a group might have positive implications in some regions (see e.g. Khanna and Palepu, 1999). Finally and rather surprisingly, Thomsen and Pedersen (2003) find a significant positive relationship between concentrated ownership by another corporation and firm value in Europe.

In sum, even though the exact direction of the effect is not always clear, the recent empirical evidence suggests that owner identity does make a difference (with few exceptions such as Zhang, 2004). Moreover, it can actually be much more important than the level of ownership concentration itself and one could even argue that there is no universal effect of concentrated ownership on firm characteristics because different owner identities are associated with different effects (Thomsen and Pedersen, 2003). To do things even more complicated, the systems effects seem to be present also in the context of owner identity. For example, Thomsen and Pedersen (2000) test the importance of system effects by investigating whether the relationship between owner identity and valuation is different in the UK that is generally considered as a market-based and efficient corporate governance system compared to continental Europe where concentrated ownership is regarded as more important means of corporate governance. They conclude that differences are clearly observable, e.g. family ownership is associated with a negative valuation premium in the UK but not on the continent and the ownership by financial institution results in relative higher market valuation in the UK than elsewhere in Europe. Thomsen and Pedersen suggest that the result may be due to the fact that pension funds with governmental ties (classified as financial institutions) play a major role in continental Europe and can represent ownership goals similar to those of governments. But whatever the reason for differences, empirical results obtained from one region should not be generalized to other regions without careful robustness checks.

3. Data, methodology and hypotheses

3.1 Data

The empirical analysis of the study is based on two separate datasets. The first dataset (Sample 1 hereafter) includes observations of owner identities and cash flow and voting right stakes of the five largest owners of the 20 largest companies in Germany, Japan, Scandinavia and USA at the beginning of year 2008. Consequently, the total size of Sample 1 is 80 companies and 400 observations of different owners. The second sample (Sample 2 hereafter) consists of identities and cash flow and voting right stakes of the five largest owners of the largest companies in Denmark, Finland, Norway and Sweden at the beginning of year 2008. Companies included in Sample 2 had to a) be listed on Copenhagen, Helsinki, Oslo or Stockholm stock exchange and b) have market capitalization above 500 million Euros on April 8, 2008. After excluding companies that have already accepted tender offers from outside buyers (such as OMX, Kemira GrowHow and Securitas Direct), companies with no accurate ownership data available, and dual listings on above-mentioned stock exchanges, the total size of Sample 2 is 196 companies and 980 observations of different owners. Descriptive characteristics of the companies in both samples categorized by country are presented in tables 1 and 7 at the beginning of sections 4.1 and 4.2.

The ownership data for both samples 1 and 2 was collected by manually combining the information provided by Thomson One Banker and the company websites. Thus the samples correctly incorporate both major foreign investors not typically included in companies' own disclosures and the holders of shares with superior voting rights not correctly included in standard Thomson outputs. Finally, after identifying the "primary" owners, basic online search engines were used to track down the true "ultimate" owners that exercise control through the primary owner. The identity of the ultimate owner is the one used in the study. The exact date of ownership information varies by owner and company (due to differences in disclosure dates), but all the owners included in the samples have announced their holdings between September 2007 and April 2008.

In addition to the ownership data, observations of six different accounting and stock market measures (performance variables hereafter) were collected for the Sample 2 companies. These performance variables were obtained from Thomson One Banker database and will be introduced in more detail at the beginning of section 4.3.

3.2 Methodology

Chapter 1 introduced the following research questions:

1. How does the general picture of ownership in Scandinavia look like compared to Germany, Japan and the USA?

2. What is the level of concentration of corporate ownership among the large Scandinavian companies?

3. Who are the ultimate owners of the large Scandinavian companies?

4. What kind of firm characteristics is ownership concentration associated with?

5. What kind of firm characteristics are different controlling shareholder identities associated with?

First research question is analyzed using Sample 1 introduced in the previous section. The goal is to descriptively analyze the differences in ownership structures of the 20 largest listed companies in Germany, Japan, Scandinavia and the USA and find out whether the relatively high level of ownership concentration in Scandinavia observed in the previous studies is still observable in 2008. In addition, the analysis includes evidence of the relative importance of different owner identities in all the above-mentioned regions. The goal of the analysis is not to provide with statistical results of the ownership structures in different countries rather than offer a brief primer on the significant differences in ownership structures around the world. In addition to being interesting per se, the purpose of these primitive comparisons is to establish the correct context for the analysis that follows. Knowing the general relationship between

Scandinavian ownership structures and those of other regions enables to put the more detailed results from Scandinavia into right context.

The remaining research questions are analyzed using Sample 2 that is entirely based on ownership data of Scandinavian companies. Research questions 2 and 3 are descriptive in nature and the analysis follows the same guidelines as the analysis of question 1. Questions 4 and 5 require more robust statistical methods and are analyzed using standard t-tests to investigate the statistical significance of the differences in means between different ownership categories in the sample. As to the level of ownership concentration, the sub-categories of widely held vs. concentrated ownership are formed using two alternative thresholds for concentrated ownership: 10 % and 20 % (10 % threshold and 20 % threshold hereafter). In other words, the ownership structure of a company is considered to be concentrated if the largest owner's *share of total votes* is higher than the chosen threshold. Otherwise the company is classified as widely held. Finally, some of the analyses include the concept of *significant blockholder.* A shareholder is classified as significant blockholder if his/her share of total votes exceeds 5 % (in contrast to *controlling blockholder* who has an ownership stake above 10 or 20 % depending on the chosen threshold).

Owner identities are classified according to two alternative classifications. The first classification (F&L hereafter) follows the guidelines of Faccio and Lang (2002) and divides the major owners into six separate categories. These categories are:

1. Family
2. State
3. Corporation (widely held)
4. Financial institution (widely held)
5. Miscellaneous
6. Cross-Holding

Detailed definitions of the categories are as follows: Category *Family* includes the founding families, other individuals and corporations that are unlisted on any stock exchange. Category *State* includes domestic or foreign national governments, municipalities, and government agencies. Category *Corporation* means another widely held public corporation and category

Financial institution refers to widely held banks, investment management companies, insurance companies, pension funds and other financial institutions. Note that contrary to Faccio and Lang (2002), the financial institutions in this study are not required to be widely-held in the case of state pension funds and investment management companies. The rationale for the former is that despite the fact that government might have some possibilities to affect the investment policies of a pension fund the ultimate investment goal should still be to maximize the return on investment and the fund is therefore classified as financial institution. The same applies to investment management companies that usually are private partnerships with very little ownership data publicly available. Still, as these companies usually invest through different kinds of mutual funds with a value-maximizing goal they are generally categorized as Financial institutions in the study. A private investment management company is categorized as Family only if an individual / group of individuals that use the ultimate power and generally invest their own money can be identified. Finally, category *Miscellaneous* includes e.g. charities, non-profit trusts and employees and a *Cross-holding* is defined as a situation where the owner of the firm under review is actually controlled by the firm itself[2].

The alternative classification of owner identities (Alternative hereafter) it otherwise the same but further splits the categories Family and Financial institution further into several sub-categories. The category Financial institution is further split into:

1. Pension fund
2. Insurance company
3. Investment management company (generally investing through mutual funds, hedge funds or private equity funds)
4. Other financial institution (including banks and those not clearly identified)

The category Family is further split into:

1. Individual (including founders, founding families and wealthy individuals holding shares in their own name)

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[2] For instance, firm Y is controlled by another firm X who in turn is controlled by firm Y. Control in this context is defined as holding at least 10 percent of the total voting rights.

2. Private investment company
3. Closely held industrial company

Rationale for the usage of the alternative classification is based on the unique characteristics of ownership in Scandinavia. Firstly, the share of pension funds and insurance companies as major shareholders is potentially significant in Scandinavia but, at least as far as the author knows, no study has ever documented the true magnitude of e.g. pension fund ownership. Secondly, since the number of owners categorized as Family can be expected to be large in Scandinavia (La Porta et al., 1999; Faccio and Lang, 2002), is it possible to divide the heterogeneous category into sub-categories that capture the nature of different types of private owners more accurately. For instance, it is evident that the goals and objectives of a founding family whose wealth is largely tied into one single company are significantly different from those of a wealthy individual / corporate raider holding significant stakes in multiple companies at the same time. In addition, objectives of a private industrial company as an owner can be expected to be more similar to those of public corporations than those of other types of owners classified as Family. Unfortunately, as the size of the final sample is rather small, only the most common owner identities (F&L and some sub-categories of Family) can be analyzed statistically in the final section of the empirical part. The discussion related to the rest of the owner categories and their potentially different "mindsets" will be descriptive in nature.

An independent two sample t-test for the differences in means assuming the variances of the distributions of the two variables to be equal (since there is no a priori reason to assume that the variances would differ) is used when investigating the difference in the mean performance variables between different ownership groups. The mathematical definition is the following:

$$t = \frac{\overline{X}_1 - \overline{X}_2}{s_{X_1 - X_2}} \tag{1}$$

where $$s_{X_1 - X_2} = \sqrt{\frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2}\left(\frac{1}{n_1} + \frac{1}{n_2}\right)} \tag{2}$$

and the degrees of freedom used in significance testing are given by the formula $n_1 + n_2 - 2$.

In addition to the t-tests, to check the robustness of the initial results on the relationship between ownership structure and valuation, ownership concentration and owner identity are together with control variables regressed on M/B multiple using two different cross-sectional multivariate OLS regression models. The definition of the first model is the following:

$$y_i = \alpha + ID_i + \beta_1 CON_i + \beta_2 CON_i^2 + \beta_3 CON2_i + CONTRL1_i + CONTRL2_i + \varepsilon_i \quad (3)$$

where

- y_i is the year-end 2007 M/B multiple of company i
- ID_i is the identity dummy variable of the largest shareholder of company i according to the four largest categories of F&L (corporation, family, financial institution, state)
- CON_i is the voting stake of the largest owner of company i (%)
- CON_i^2 is the voting stake of the largest owner raised to the power of two (%)
- $CON2_i$ is the voting stake of the second largest owner of company i (%)
- $CONRL1_i$ is the vector of company specific control variables (such as D/E ratio and the natural logarithm of sales of company i at year-end 2007)
- $CONRL2_i$ is the dummy control variable for the companies operating in the financial sector

The second regression model uses the same variables but is defined slightly differently:

$$y_i = \alpha + \beta_1 CON_i + \beta_2 ID_i CON_i + CONTRL1_i + CONTRL2_i + \varepsilon_i \quad (4)$$

The purpose of the first regression model is to investigate the general relationship between the level of ownership concentration measured as the voting stake of the two largest shareholders and firm value while controlling for the identity of the first owner. The second model, on the other hand, investigates the combined effect of the identity and voting stake of the largest owner.

It is worth noting that the majority of the most recent studies on ownership have used simultaneous equations models at least in robustness checks in order to take into account the potentially endogenous nature of ownership concentration. However, Thomsen and Pedersen (2000 and 2003) investigated the relationship between ownership structure and M/B multiple in Europe using both a standard least squares model and a three-stage least squares simultaneous equations model and find similar results regardless of the model used. Consequently, a standard cross-sectional least squared model used in the study should yield reasonably reliable results, even though the causality between explanatory and depended variable might not be fully revealed. Also Cronqvist and Nilsson (2003) provide with support on the argument than the usage of standard OLS regression in the present context might be valid after all. They argue that the endogeneity problem is likely to be severe especially in the US studies of the effect of management ownership concentration since the managers are usually awarded equity as a part of their compensation package and reward for good performance. This is not the case with the controlling shareholders in Scandinavia.

Nevertheless, is it important to note that the majority of the firm characteristics explained by differences in ownership structures are results of complicated processes of potentially infinite number of explanatory variables. Therefore the regression model will inevitably suffer from serious omitted variable bias that can distort the value of the regression coefficient and their standard errors. However, if one assumes that the *average* differences in the true drivers of firm characteristics are small between different ownership categories, a careful interpretation of regression results is feasible. Moreover, due to the small sample size and the limited degrees of freedom, the purpose of the regression in more to provide with additional evidence on the direction of the relationship between ownership structure and valuation and the t-tests for the differences in means remain the main statistical tool of the study. All the regressions are conducted with eViews 6.0 econometric software and controlled for heteroskedasticity using White test. The t-values presented in the empirical part are calculated with White heteroskedasticity-consistent covariance matrix (see White (1980) for details).

3.3 Hypotheses

Since research questions 1, 2, and 3 are analyzed in a descriptive manner, no specific hypotheses regarding them are presented. The main hypotheses of the study are related to research questions 4 and 5, i.e. the relationship between firm characteristics and ownership concentration and owner identity. Firth two hypotheses are related to the effect of ownership concentration and the four remaining hypotheses discuss the effect of owner identity. The section below first states the hypothesis and then provides with theoretical background for it.

H1: *There is no significant relationship between general ownership concentration measured by the voting stake of the largest shareholder and firm performance.*

Demsetz (1983) argues that ownership structure should be irrelevant with respect to firm performance and together with Lehn (1985) provides with empirical evidence to support his argument. On the other hand, many empirical studies (starting from Morck et al., 1988) find a quadratic relationship between ownership concentration and firm performance (usually measured by either Tobin's Q or M/B multiple) where firm performance first improves at moderate levels of ownership concentration and then starts to decline after a certain threshold. The rationale behind the findings is that at the moderate levels of ownership concentration the existence of a significant shareholder reduces the agency conflicts between the management and the owners but at some point the agency conflicts between the controlling shareholder and the minority shareholder start to dominate and the firm performance is adversely affected. The studies such as Morck et al. (1988) mostly focused on management share ownership in the USA. More recent studies investigating the relationship between *outside* ownership concentration and firm characteristics have found extremely mixed results with some academics (such as Thomsen and Pedersen, 2003; Mínquez-Vera and Martín-Ugedo, 2007) arguing that ownership concentration is an important corporate governance tool that has a favorable impact on firm performance and others (e.g. Cronqvist and Nilsson, 2003; Zhang, 2004) suggesting that the relationship in insignificant or even negative.

What is the truth then? I suggest that the cultural and legal environment recently emphasized by e.g. Mínquez-Vera and Martín-Ugedo (2007) and Lópes-de-Foronda et al. (2007) contributes to the observed differences. One common factor for the studies finding a positive

relationship between ownership concentration and firm characteristics is that they are mostly conducted in continental Europe (see e.g. studies of Thomsen and Pedersen 2000 and 2003) where the relatively low level of shareholder protection can lead to agency conflicts between management and shareholders (La Porta et al. 1997, 1998, and 1999). In this kind of cultural environment, concentrated ownership can be an important corporate governance tool that can be hypothesized to have a favorable impact on firm performance. On the other hand, according to La Porta et al. (1998) and Coffee (2001b), the level of legal protection in Scandinavia is better than in many central European countries. Also, the corporate takeover market in Scandinavia – regarded as an important *external* corporate governance mechanism -- – is more active in Scandinavia than in many other European countries (see e.g. Carlsson, 2007). Therefore, as suggested by Coffee (2001a), cultural norms rather than potentially high agency conflicts are a more probable explanation for the high observed level of ownership concentration in Scandinavia. Following the same logic, the importance of concentrated ownership as a means to reduce agency conflicts can be expected to lower in Scandinavia than in continental Europe and the positive impact of ownership concentration on firm performance observed in continental Europe is not to be expected in Scandinavia.

On the other hand, Cronqvist and Nilsson (2003) provide empirical evidence from Sweden suggesting that the relationship between ownership concentration and firm performance is *negative* in terms of lower Tobin's Q. However, they do not control for the effect of owner identity in their analysis. I expect the owner identity to be true driver of observed differences and therefore believe that even if higher of ownership concentration would be initially associated with poorer firm performance, the relationship will disappear after controlling for the owner identity. All in all, I expect the effect of the voting stake of the largest owner on firm performance to be insignificant in Scandinavia.

H2: *The voting stake of the second largest shareholder does not correlate significantly with firm performance.*

Some recent studies (see e.g. Maury and Pajuste, 2005; Bedo and Ács, 2007) have emphasized the potentially positive effect of having a second significant shareholder (usually defined as shareholder with over 5 % of the votes) monitoring and challenging the power of the controlling shareholder. This is hypothesized to reduce the ability of the controlling

shareholder to extract private benefits of control and thus reduce the agency conflicts between the controlling shareholder and the minority shareholders. On the other hand, previous empirical evidence of the impact of a significant second largest shareholder is mixed. Maury and Pajuste (2005) associate the contestability of the power the largest owner with a positive effect on firm value but Bedo and Ács (2007) find exactly the opposite results. Taking these mixed findings into account, I follow the logic of hypothesis 1 above and argue that if significant agency conflicts between the controlling and minority shareholders are not to be expected in Scandinavia, also the effect of a second significant shareholder can be expected to be negligible. Moreover, as will be shown in the descriptive part of the empirical study, significant minority shareholders (holding more than 5 percent of the votes) are much more common in Scandinavia than e.g. in central Europe making the applicability of any kind of continental European results controversial in Scandinavia and the probability of finding Scandinavian evidence conflicting with the evidence obtained from other regions is high.

H3: *Financial institution as a largest owner is associated with positive effect on firm performance.*

The third as well as the other remaining hypotheses effectively argue that, despite the expected insignificant effect of ownership concentration, ownership structure as a whole is not irrelevant. I expect ownership structure to make a difference, but not due to level of concentration rather than due to different owner identities. As pointed out by Thomsen and Pedersen (2003), the academics in the USA have for a long time associated ownership structure directly with the level of ownership concentration – and mostly the ownership stake of the company management. Although this could have been a feasible approach in the US corporate ownership environment, it is certainly not applicable to Scandinavia where the identities of the controlling shareholders vary a lot (as will be shown in the next chapter). Different major shareholder identities can be expected to have different goals and objectives (often different from those of the traditional mean-variance optimizer) with will be reflected in company characteristics.

The theoretical background for hypothesis 3 lies in the assumption that out of the potential set of different types of owners, financial institutions are most interested in maximizing shareholder value (Thomsen and Pedersed, 2000). There is also strong empirical evidence for

different regions to support the argument, for instance Cronqvist and Nilsson (2003) conclude that controlling ownership by financial institution results in higher valuation than controlling ownership by other type of major owner in Sweden. Although some academics have presented concerns e.g. about the short-term investment horizon of the financial institutions (see e.g. Brown et al., 1996), I still expect the relationship between firm performance and ownership by financial institution to be positive.

H4: *Companies with government as a largest owner tend to perform relatively poorly.*

As opposed to financial institutions, the objectives of government as an owner can be expected to deviate significantly from simply maximizing the shareholder value. For instance, Hart et al. (1997) suggest that governments tend to outweigh political goals such as employment or low output prices relative to pure profitability. There is also extensive line of empirical evidence showing the relative ineffectiveness of state-owned companies (e.g. D'Souza and Megginson, 1999; Thomsen and Pedersen 2000 and 2003). Consequently, I expect to see similar results in Scandinavian context.

H5: *Companies with family as a largest owner are more risk averse in terms of lower EBITDA standard deviation and experience lower average sales growth.*

Family ownership has traditionally been associated with more conservative strategies and risk aversion due to poor diversification and capital constraints (Fama and Jensen, 1985). Consequently, I expect family-owned companies to experience lower rates of sales growth and EBITDA standard deviation. On the other hand, I make no specific assumption of the relationship between family ownership and the firm performance in general since both the theory and the empirical findings about the effect of family ownership are controversial. For instance, family owners are often associated with long-term ties and long investment horizon that can have beneficial impact on company performance (Thomsen and Pedersen, 2003). In addition, families are hypothesized to be particularly prone to extract private benefits of control causing adverse effect on firm performance (Villalonga and Amit, 2006).

Even more important problem with regard to family ownership is that the ownership category Family includes a wide variety of different kinds of private owners ranging from private

industrial corporations to founder families. As the goals and objectives of each of these sub-categories can be expected to differ, the variation within the broad owner identity Family might be large. Therefore, I do not make too many prior assumptions about the effect of family ownership and expect the standard deviation of the performance variables within the group family be larger than within the other owner groups.

4. Empirical results

4.1 Ownership in Scandinavia compared to other regions

The main purpose of section 4.1 is to investigate the general nature of ownership in Scandinavia compared to three other countries around the world. The general conclusion from earlier studies (see e.g. La Porta et al., 1999 and Faccio and Lang, 2002) is that ownership in Scandinavian countries is rather concentrated. Scandinavia is often regarded as a unique combination of high levels of legal protection and concentrated ownership structures often accompanied by dual-class shares and discrepancy between ownership and control (Coffee, 2001b, La Porta et al., 1999). This special nature of Scandinavian "system effects" (Gedajlovich and Shapiro, 1998) should be taken into account when evaluating the eventual results of the effect of ownership structures on firm performance.

However, since the results of many earlier studies are based on data collected in 1990s it will be interesting to see whether ownership structures have changed. Consequently, I present a brief primer of the level of ownership concentration and major owner identities in Scandinavia as of year-end 2007 and compare the Scandinavian ownership structures to those obtained from Germany, Japan, and the USA. The analysis will form a basis on which the more detailed investigation of Scandinavian ownership structures presented in the following sections will be built. As described in section 4.1, the dataset used in the study consists of the voting and cash flow stakes of the five largest shareholders (by voting stake) of the 20 largest companies in Germany, Japan, Scandinavia and the USA. Table 1 presents the characteristics of the sample companies.

Table 1: Characteristics of companies in Sample 1

Table 1 shows the max, min, average, and median market capitalization (euro millions) and the number of companies included in Sample 1.

	Germany	Japan	Scandinavia	USA	Total
# of companies	20	20	20	20	80
Max	77 255	125 065	90 918	294 307	294 307
Min	10 532	20 664	9 610	78 083	9 610
Mean	34 911	37 713	22 480	123 747	54 713
Median	37 418	32 830	19 509	101 029	35 143

The analysis begins by investigating the average size of the voting stake of the five largest shareholders in each of the countries under review. These along with the combined voting stakes of 5 and 10 largest shareholders are presented on table 2.

Table 2: Average stakes of largest shareholders in Sample 1

Table 2 shows the average voting stakes (%) of the five largest shareholders of the 20 largest publicly quoted companies in USA, Germany, Scandinavia, and Japan. In addition, the combined voting stake of 5 and 10 largest shareholders are shown.

	Germany	Japan	Scandinavia	USA	Total
1st owner	15,2	12,0	**33,3**	9,1	19,7
2nd owner	5,7	4,0	8,0	4,0	6,5
3rd owner	3,7	2,8	3,8	3,3	4,0
4th owner	2,4	2,2	2,7	2,9	2,7
5th owner	1,9	1,6	1,8	2,4	2,0
5 largest combined	29,0	22,7	**49,6**	21,7	34,9
10 largest combined	34,7	27,1	55,3	28,7	40,9

As can be seen from table 2, the level of ownership concentration in Scandinavia is significantly higher than in any of the other regions, as reported also in the majority of the earlier studies. In addition, as could be expected based on the results of e.g. La Porta et al. (1999) and Claessens et al. (2000), largest owners in USA and Japan are generally relatively small compared to Scandinavia and ownership in this countries appears to be dispersed. However, the relatively low level of ownership concentration among the largest German companies is slightly surprising. One explanation to the finding is that especially the largest German companies have internationalized their owner base rapidly during the past 10 years and the traditional bank-centered corporate governance system with cross-holding structures is losing ground. Similar conclusion was recently made by e.g. Moebert and Tydecks (2007) who reported a growing international aspect in German ownership structures.

Another interesting finding from table 2 is the relatively fast decline in the size of voting stake of other owners behind the two largest owners also in Scandinavia. Looking at the stakes of 3rd owner and beyond, the difference in their sizes of voting stakes between Scandinavia and other regions is no longer observable. This is in line with earlier findings of La Porta et al. (1999) and Becht and Mayer (2001) who report that, in the countries with generally concentrated ownership, the controlling shareholders are usually alone with no other major stakeholders contesting their power. Still, it is important to note that the average size of the ownership stake by the 2nd largest shareholder is significantly higher in Scandinavia than in any of the other regions, which suggests that the contestability of control of the largest shareholder is more common in Scandinavia than in the other regions.

Natural next questions are e.g. what percentage of companies in each country has concentrated ownership and who the major owners actually are. Table 3 tries to answer these questions by showing the percentage of total companies in each country whose ownership is classified as concentrated using two alternative thresholds for concentrated ownership. In addition, concentrated ownership is further divided according to the identity of controlling shareholder (categories of Faccio and Lang are used).

Table 3: Widely held vs. concentrated ownership and controlling shareholder identities in Sample 1
Table 3 shows the %-share of different ownership structures among the 20 largest publicly quoted companies in USA, Germany, Scandinavia, and Japan. Companies are classified as Widely Held if one single owner holds either 10 % (Panel A) or 20 % (Panel B) of the total votes. Otherwise companies are regarded as concentrated. Concentrated companies are further classified according to the identity of the major owner. The six different owner identities used are in line with the classification of Faccio and Lang (2002) and are explained in more detail in section 3.2.

Panel A: 10 % threshold for concentrated ownership	**Germany**	**Japan**	**Scandinavia**	**USA**	**Total**
Widely Held	50	80	5	80	53,75
Concentrated	50	20	95	20	46,25
of which					
Family	20	0	40	15	18,75
State	15	10	30	0	13,75
Financial Institution	10	0	5	5	5
Corporation	0	10	10	0	5
Cross-Holding	0	0	5	0	1,25
Miscellaneous	5	0	5	0	2,5

Panel B: 20 % threshold for concentrated ownership	Germany	Japan	Scandinavia	USA	Total
Widely Held	70	85	30	90	68,75
Concentrated	30	15	70	10	31,25
of which					
Family	15	0	30	10	13,75
State	10	10	25	0	11,25
Financial Institution	0	0	0	0	0
Corporation	0	5	10	0	3,75
Cross-Holding	0	0	0	0	0
Miscellaneous	5	0	5	0	2,5

Looking at the figures of table 3, the difference in the level of ownership concentration between Scandinavia and other regions is even more dramatic. When using the 10 % threshold for concentrated ownership (i.e. all the companies where the largest shareholder holds over 10 % of the votes are classified as concentrated), only one company of the largest 20 in Scandinavia is classified as widely held as opposed to Japan and USA where 80 percent of the sample companies are regarded as widely held. Even when 20 % threshold for concentrated ownership is used, the majority of Scandinavian companies are classified as concentrated. Almost all of the largest companies in Japan and USA are widely held with the 20 % threshold for concentrated ownership.

The comparison of the results to those of La Porta et al. (1999) is natural since they as well investigate the ownership structures of the 20 largest companies in different countries. The levels of ownership concentration reported by La Porta et al. are similar in United States and Scandinavia and slightly higher in Germany and Japan. One explanation could naturally be that the dataset of La Porta et al. is rather old (from 1995). As discussed above, it is possible that the ownership structures of the largest German and Japanese companies have become more dispersed during the past 10 years. In addition, Claessens et al. (2000) investigate the ownership structures in Asia in more detail and argue that the ownership of Japanese companies is actually more dispersed than implied by the findings of La Porta et al. (1999).

As discussed in section 2.2.1, also Faccio and Lang (2002) investigate ownership structures in Scandinavian countries and show e.g. that 80 percent of the 20 largest public companies in Sweden are regarded as widely held (meaning that no single owner holds more than 20 % of the total votes). This obviously contradicts with the findings of table 3 suggesting that only 30

percent of the largest Scandinavian companies are widely held with the 20 % threshold. I attribute the difference to different data collection method used and suggest that the methodology of Faccio and Lang might, for instance, have led to missing the discrepancy between ownership and control due to dual-class shares that are common in the Scandinavian countries.

As to the owner identities, the importance of family ownership in Europe emphasized by e.g. Becht and Mayer (2001) is clearly reflected on table 3 as the category Family is the most important owner identity in both Germany and Scandinavia. Another notable special characteristic of Scandinavian countries is the continuously high level of state ownership. Finally, the importance of financial institutions as controlling shareholders is not particularly important in any of the sample regions. Even in Germany, that is traditionally regarded as bank-centered (see e.g. Becht and Mayer, 2001), only 2 out of 20 companies are controlled by an institution even with the lower threshold for concentrated ownership. This finding is in line with Moebert and Tycks (2007) who show that the importance of institutions as large owners has decreased in Germany.

However, if the identities of all the five largest shareholders are investigated instead of looking only at the identity of the largest shareholder, the importance of financial institutions rises tremendously. Especially in the USA, but also in Scandinavia, financial institutions are the most common type of owners. This is reflected on panel A of table 4 on the next page. On the other hand, if one looks only *significant* shareholders (by definition holding over 5 % of votes), the importance of financial institutions relative to other owner categories is reduced. Particularly in Scandinavia families and governments are equally important owners compared to financial institutions as each of the three owner categories represent over 20 % of all the identified significant owners. This is shown on panel B of table 4.

Table 4: Relative frequency of owner identities among top shareholders in Sample 1

Panel A of Table 4 shows the %-share (number of owners with a certain identity divided by the total number of identified owners) of different owner identities among the five largest owners of the 20 largest publicly quoted companies in USA, Germany, Scandinavia, and Japan. Panel B shows the %-share of different owner identities among those shareholders who hold over 5 percent of the total votes.

Panel A: share of owner identities of total number of owners (%)	**Germany**	**Japan**	**Scandinavia**	**USA**	**Total**
Family	7	1	15	9	8
State	5	4	8	0	4,25
Financial Institution	84	79	68	91	80,5
Corporation	1	8	3	0	3
Cross-Holding	1	4	1	0	1,5
Miscellaneous	2	4	5	0	2,75

Panel B: share of owner identities of significant owners (%)	**Germany**	**Japan**	**Scandinavia**	**USA**	**Total**
Family	25,0	4,5	29,7	35,7	28,0
State	17,9	9,1	21,6	0	15,1
Financial Institution	50,0	63,6	27,0	64,3	39,8
Corporation	0	18,2	8,1	0	5,9
Cross-Holding	3,6	4,5	2,7	0	2,2
Miscellaneous	3,6	0	10,8	0	9,1

The natural explanation for the difference between panels A and B above is, as noted also by e.g. Becht and Mayer (2001), that the average size of the voting stake of a financial institution is much smaller than that of e.g. government or family. This is illustrated in Table 5.

Table 5: Average voting stakes of owner identities in Sample 1

Table 5 shows the average %-share of vote held by different owner identities among the five largest owners of the 20 largest publicly quoted companies in USA, Germany, Scandinavia, and Japan.

	Germany	**Japan**	**Scandinavia**	**USA**	**Total**
Family	20,3	10,0	20,2	13,2	17,5
State	21,2	24,7	35,7	0	26,9
Financial Institution	3,5	3,1	3,0	3,5	3,6
Corporation	3,0	10,6	24,4	0	14,1
Cross-Holding	7,6	3,1	11,1	0	6,0
Miscellaneous	14,0	1,6	22,5	0	9,6

The average voting stake of financial institution is only close to three percent in all of the sample regions. On the other hand, governments and families tend to hold significantly larger

stakes. One interesting aspect in Scandinavian ownership structures is also the high average voting stake of category Miscellaneous (22.5 %). This is explained by the existence of different kinds of foundations as major owners in Scandinavia as will be discussed in more detail in the next section.

Another often neglected question is who the owners broadly classified as financial institutions actually are. The dataset used enables me to split the category further into four sub-categories (as explained in section 3.2). The results presented on table 6 indicate that pension funds that are relatively significant shareholders in Scandinavian countries are not present at least as separate entities in any of the other regions. Insurance companies appear to have significant ownership stakes in Japan and in the US investment management companies (most commonly mutual funds) are the dominant institutional owner type. Note that category other financial institution that includes direct bank ownership does not include any observations in Germany, which is rather surprising. The reason is that although financial conglomerates do own German firms they usually do it through their asset management division or mutual funds. This kind of ownership is categorized under category Investment management company.

Table 6: Relative frequency of sub-categories of Financial institutions in Sample 1
Table 6 shows the relative frequency (%) of pension funds, insurance companies, investment management companies and other financial institution out of all the owners classified as financial institutions. Dataset consists of the five largest owners of the 20 largest publicly quoted companies in USA, Germany, Scandinavia, and Japan.

	Germany	Japan	Scandinavia	USA	Total
Pension fund	0	0	17,6	0	10,6
Insurance company	1,2	29,1	7,4	0	9,2
Investment management co.	98,8	41,8	57,4	98,9	67,9
Other fin. institution	0	29,1	17,6	1,1	12,4

In sum, the quick look at the differences in ownership structures in four regions around the world clearly shows that there is no such thing as universal ownership structure. The unique nature of ownership in Scandinavia compared to many other regions is confirmed as the average ownership of the 20 largest Scandinavian companies is much more concentrated than in their counterparts in Germany, Japan and the US. When looking at the identities of the major owners, regional differences are observed. Family and state-ownership is particularly important in Scandinavia whereas financial institutions dominate in the USA. Also the standard type of financial institutions varies significantly by region as pension funds are significant stakeholders only in Scandinavia.

Some of the observed differences might theoretically be due to significant difference in the absolute size of the sample companies in the USA and Scandinavia since, as pointed out by e.g. La Porta et al. (1999), larger companies tend to be more widely held, but most probably the results would not change a lot even if the sizes of the sample companies would be matched more closely. For instance, La Porta et al. (1999) test the impact of studying a more balanced sample but find similar differences between USA and Scandinavia. Nevertheless, the more comprehensive picture of Scandinavian ownership presented in the next section enables the evaluation of the relationship between company size and ownership concentration.

4.2 Ultimate corporate ownership in Scandinavia

The analysis continues by investigating the level of ownership concentration and identity of largest shareholders in Scandinavia in more detail. As explained in section 3.1, the dataset consists of 196 Scandinavian companies with market capitalization above 500 million Euros in April 2008. Table 7 below shows the descriptive statistics of the sample companies. The reader might notice a slight difference in the market capitalization of the largest Scandinavian company Nokia compared to the same value of Sample 1 presented on table 1 earlier. This is due to one month's time difference in collecting the data for samples 1 and 2.

Table 7: Characteristics of companies in Sample 2
Table 7 shows the max, min, average, and median market capitalization (euro millions) and the number of companies included in Sample 2.

	Denmark	Finland	Norway	Sweden	Total
# of companies	29	43	54	70	196
Max	31 078	82 829	62 865	28 645	82 829
Min	531	501	502	512	501
Mean	4 862	4 656	3 651	4 647	4 406
Median	2 373	1 369	952	1 846	1 402

Before moving on to the results, a few observations about the general characteristics of the four Scandinavian countries are worth discussing. The level of transparency in reporting ownership structures varies surprisingly lot even within Scandinavia. Finnish companies provide with an up-to-date list of largest shareholders with only a few exceptions (such as Nokia) on their web pages, whereas the level of transparency is much lower especially in Denmark where detailed ownership disclosures are more an exception than a rule. The reliability of Danish data is further lowered by the fact that domestic shareholders in Denmark are not required to register shareholdings to their own names rather than hold so called *bearer shares* with which the identity of the underlying owner is not revealed.

Due to the difficulty of obtaining reliable data, the number of Danish companies in the sample is lower than the number of companies included from the three other Scandinavian countries. On the other hand, despite the availability of detailed ownership data, the number of Finnish companies is not much higher due to the small number of companies with market capitalization above 500 million Euros. Most of the sample companies are based in Sweden

where ownership data is relatively easily available but complicated ownership structures (e.g. pyramids and cross-holdings) with a tendency to use multiple share classes with differentiated voting rights complicate the analysis. Finally, Norwegian firms disclose their largest shareholders in most of the cases and do not suffer severely from the multiple share-classes problem. On the other hand, the ownership of large Norwegian firms is largely in the hands of anonymous off-shore holding companies, which makes tracking down the ultimate owners rather problematic.

Despite the difficulties, the obtained ownership data should be relatively accurate and there is no reason to believe that the companies excluded from the sample due to insufficient information are fundamentally different from the ones included in it. Table 8 begins the analysis by presenting the average sizes of the voting stakes of five largest owners in each of the Scandinavian countries.

Table 8: Average voting stakes of largest shareholders in Sample 2

Table 8 shows average voting stakes (%) of the five largest shareholders of the largest publicly quoted companies in Scandinavia. In addition, the combined voting stake of 5 largest shareholders is shown.

	Denmark	Finland	Norway	Sweden	Total
1st owner	36,8	26,1	37,0	35,3	34,0
2nd owner	7,8	8,1	9,1	8,8	8,6
3rd owner	2,9	5,2	5,5	5,4	5,0
4th owner	1,7	3,5	3,3	3,4	3,2
5th owner	1,1	2,7	2,5	2,5	2,4
5 largest combined	50,4	45,6	57,5	55,3	53,1

Contrary to the findings of some previous studies claiming that small companies tend to have more concentrated ownership than large companies (see e.g. La Porta et al., 1999), the average voting stakes of five largest shareholders among the Sample 2 companies are relatively similar to the average voting stakes of the largest owners of the 20 largest Scandinavia companies presented on table 2 in the previous section suggesting that the level of ownership concentration in Scandinavia does not depend on company size. In both of the samples, the largest shareholder in listed Scandinavian companies holds about one third of the total votes on average. The similarity in the level of ownership concentration regardless of the size of the companies further illustrates the unique nature of ownership in Scandinavia and implies that concentrated ownership structures are imbedded in the Scandinavia corporate

culture and do not disappear as companies grow and become more international. Table 8 also confirms the relatively high average voting stake of the second largest shareholder which could be seen also from table 2 in the previous section. As discussed earlier, this implies that the contestability of the control of the largest shareholder, the importance of which has recently been emphasized by e.g. López-de-Foronda et al. (2007), is relatively common in the Scandinavian countries.

Despite the differences in the level of transparency in reporting ownership structures in different Scandinavian countries, the average national levels of ownership concentration shown on Table 8 are close to each other. The only notable exceptions are the significantly lower average voting stake of the largest shareholder in Finland and the smaller size of voting stakes of the 3rd, 4th, and 5th shareholders in Denmark. The latter can probably be explained by the low quality of in Danish ownership structure reports which can lead to inaccuracy especially with smaller shareholders behind the two largest ones. However, the difference between Finland and the three other countries is more interesting since the legal and corporate governance systems in all of the countries should be relatively similar. The most probable explanation to the slightly lower level of ownership concentration in Finland is the smaller number of rich and powerful families that have significant stakes in multiple companies at the same time. The Finnish families usually have ownership in only one or two companies whereas families such as Wallenbergs in Sweden or Hagens in Norway control multiple listed companies at the same time[3]. This development might be due to historical differences since Finland as the youngest of the Nordic nations probably has the lowest number of old and traditionally powerful industrial families.

The natural next step is to take a closer look at the overall level of ownership concentration and the relative share of different owner identities in Scandinavian countries in order to confirm the high level of controlling family ownership found in the previous studies. Table 9 shows the percentage of total companies in each country whose ownership is classified as concentrated using two alternative thresholds for concentrated ownership (10 % and 20 %). In addition, concentrated ownership is further divided according to the identity of controlling shareholder by the categories used by Faccio and Lang (2002).

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[3] The Wallenberg family exercises significant control at least in Ericsson, Atlas Copco, Scania, Investor, Electrolux, Husqvarna and SAAB in Sweden. The Hagen family controls e.g. Fast Search, Tomra Systems, Renewable Energy, and Orkla in Norway.

Table 9: Widely held vs. concentrated ownership and owner identities in Sample 2

Table 9 shows the %-share of different kinds of ownership structures among the largest publicly quoted companies in Scandinavia. Companies are classified as Widely Held if one single owner holds either 10 % (Panel A) or 20 % (Panel B) of the total votes. Otherwise companies are regarded as concentrated. Concentrated companies are further classified according to the identity of the major owner. The six different owner identities used are in line with the classification of Faccio and Lang (2002) and are explained in more detail in section 3.2.

Panel A: 10 % threshold for concentrated ownership	**Denmark**	**Finland**	**Norway**	**Sweden**	**Total**
Widely Held	13,8	18,6	11,1	4,3	10,7
Concentrated	86,2	81,4	88,9	95,7	89,3
of which					
Family	27,6	37,2	63,0	65,7	53,1
State	3,4	16,3	14,8	4,3	9,7
Financial Institution	27,6	4,7	5,6	14,3	11,7
Corporation	3,4	9,3	3,7	4,3	5,1
Cross-Holding	0,0	0,0	0,0	1,4	0,5
Miscellaneous	24,1	14,0	1,9	5,7	9,2

Panel B: 20 % threshold for concentrated ownership	**Denmark**	**Finland**	**Norway**	**Sweden**	**Total**
Widely Held	44,8	46,5	22,2	30,0	33,7
Concentrated	55,2	53,5	77,8	70,0	66,3
of which					
Family	20,7	27,9	57,4	51,4	43,4
State	0,0	14,0	14,8	2,9	8,2
Financial Institution	6,9	2,3	1,9	5,7	4,1
Corporation	3,4	2,3	1,9	4,3	3,1
Cross-Holding	0,0	0,0	0,0	1,4	0,5
Miscellaneous	24,1	7,0	1,9	4,3	7,1

Table 9 shows that the overall level of ownership concentration in Scandinavia is close the level of ownership concentration among the 20 largest Scandinavian companies presented on table 3 in section 4.1. When 20 % threshold for concentrated ownership is used, about one third of the sample companies are classified as widely held. With 10 % threshold, the proportion of widely held companies is reduced to 10 percent. Ownership appears to be the most concentrated in Norway and Sweden. For instance, only slightly over 4 percent of the Swedish companies do not have at least one owner holding more than 10 % of the votes. Compared to Norway and Sweden, Finnish and Danish companies are more often widely held. When comparing the results shown on table 9 to the results of Faccio and Lang (2002) obtained from Finland, Norway, and Sweden, some differences are observed. For instance, Faccio and Lang find that when 20 % threshold is used, the share of widely held companies in

Finland, Norway and Sweden is 28.7, 36.8 and 39.18 percent, respectively. Thus, compared to the results of this study, the level of ownership concentration found by Faccio and Lang (2002) is slightly lower in Finland and slightly higher in Sweden and Norway. One potential explanation to the different result is the 10 year's time difference in collecting the samples as the ownership structures in Scandinavia might have changed. On the other hand, it is hard to believe that ownership in Norway and Sweden would have become *more* concentrated during the past 10 years which implies that the difference is probably attributable to different data collection methods as discussed also in the previous section. This shows that the comparison of the results of different ownership studies is not always easy, as is further illustrated by the fact that e.g. Cronqvist and Nilsson (2003) who studied ownership in Sweden around the same time as Faccio and Lang show that ownership concentration in Sweden is in fact much higher that the findings of Faccio and Lang indicate.[4]

As to the identities of the controlling shareholders, table 9 shows that the importance of category Family is even higher among the entire Scandinavian sample compared to Sample 1 where only the 20 largest companies were included. Over 50 % of the companies in Sample 2 have a controlling shareholder holding over 10 % of the votes that is classified as family-owner. The finding confirms the unusual importance of family ownership in Scandinavia suggested also by e.g. La Porta et al. (1999) and Faccio and Lang (2002). On the other hand, the relative importance of Government ownership is smaller when looking at sample 2 compared to sample 1 suggesting that governments tend to hold stakes only in the largest Scandinavian companies. The importance of government ownership also varies across the Scandinavian countries. Finland and Norway still have significant number of state-controlled companies whereas especially in Denmark the state-ownership is virtually nonexistent. Also the high share of state-ownership in Finland and Norway is in line with the earlier findings of Faccio and Lang.

Financial institutions are more common owners in Denmark compared to other Scandinavian countries. With the 10 % threshold for concentrated ownership shown on panel A of table 9, more than one quarter of all the Danish companies have an institution as a controlling owner.

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[4] However, as mentioned in section 2.2.1, the methodology used by Cronqvist and Nilsson (2003) is slightly different compared to the other major ownership surveys making the direct comparison of the results difficult. As opposed to looking only at the voting stake of the largest shareholder, Cronqvist and Nillson form ownership blocks that they believe to have the effective control together.

This partly due to the fact that the state-owned pension fund ATP often holds over 10 percent stakes in listed companies in Denmark as opposed to the pension funds in the other sample countries who tend to have smaller stakes. In addition, the Danish sample is relatively small and a few notable holdings of investment management companies have an impact on the average frequency of financial institutions. The share of institutions as major owners is somewhat high also in Sweden, where the existence of widely held investment companies such as Industrivärden contributes to the result. Finally, widely held (non-financial) corporations are not common owners in any of the Scandinavian countries. Instead, controlling shareholders are surprisingly often different kinds of foundations of trusts which results in almost 10 % average stake for category Miscellaneous. This figure is very high in European comparison (Faccio and Lang, 2002). The importance of controlling owners classified as Miscellaneous is particularly important in Denmark where many of the largest companies are controlled by foundation such as the Carlsberg foundation or the Lundbeck foundation.

Despite the fact that the majority of Scandinavian companies are controlled by families, financial institutions are still the most common owner type among the top 5 owners. However, their importance if greatly reduced when looking only at the *significant* owners holding more than 5 percent of total votes. The relative share of different shareholder identities out of total number of top 5 owners in Sample 2 and out of those owners holding more than 5 percent of the votes is shown on Table 10.

Table 10: Relative frequency of owner identities among top shareholders in Sample 2
Panel A of Table 10 shows the %-share (number of owners with certain identity divided by the total number of owners) of different owner identities among the five largest owners of the largest publicly quoted companies in Scandinavia. Panel B shows the %-share of different owner identities among those shareholders who hold over 5 percent of the total votes.

Panel A: owner identities' share of total number of owners (%)	**Denmark**	**Finland**	**Norway**	**Sweden**	**Total**
Family	9,2	19,1	22,2	26,0	21,0
State	1,4	5,6	4,1	2,0	3,3
Financial Institution	78,0	56,7	67,0	64,3	65,4
Corporation	1,4	2,8	1,5	1,7	1,8
Cross-Holding	2,8	2,3	1,5	0,3	1,4
Miscellaneous	7,1	13,5	3,7	5,7	7,1

Panel B: owner identities' share of significant owners (%)	Denmark	Finland	Norway	Sweden	Total
Family	21,8	27,0	32,8	43,2	34,1
State	3,6	12,0	7,5	4,1	6,8
Financial Institution	50,9	42,0	50,7	40,2	45,0
Corporation	3,6	4,0	3,0	3,6	3,5
Cross-Holding	1,8	0,0	1,5	0,6	0,9
Miscellaneous	18,2	15,0	4,5	8,3	9,8

As can been seen on Panel A of Table 10, almost two thirds of all the identified owners are classified as Financial Institutions in Scandinavia when the categories of Faccio and Lang (2002) are used. The other significant owner identity is Family. However, when looking only at the significant owners presented in panel B, the share of financial institutions is reduced to 45 %. Also the importance of state-ownership increases in panel B which implies that governments in Scandinavia tend to hold only significant (i.e. above 5 %) stakes in the companies they own.

The unique nature of the dataset used in the study enables also a closer look at the different types of financial institutions and private owners using the Alternative classification of owner identities presented in section 3.2. As can be seen on table 11 below, among the financial institutions, Scandinavian countries have a large number of pension funds (both mutual and state-controlled) as major shareholders. In addition, the large number of owners classified as Family according to F&L owner categories enables splitting the category into individuals, private investment companies and closely held industrial companies.

Table 11: Relative frequency of sub-categories of Financial institutions and Family in Sample 2
Panel A in Table 11 shows the relative frequency (%) of pension funds, insurance companies, investment management companies and other financial institution of all the owners classified as Financial institution. Panel B shows the relative frequency (%) of individuals, private investment companies, and closely held industrial companies of all the owners classified as Family. Dataset consists of the five largest owners of the largest publicly quoted companies in Scandinavia.

Panel A: (%) share of sub-categories under Fin. institution	Denmark	Finland	Norway	Sweden	Total
Pension fund	21,8	34,4	16,6	24,9	23,8
Insurance company	0	9,0	3,9	12,0	7,1
Investment management co.	70,0	47,5	67,4	53,8	59,2
Other fin. institution	8,2	9,0	12,2	9,3	9,9

Panel B: (%) share of sub-categories under Family	Denmark	Finland	Norway	Sweden	Total
Individual	61,5	46,3	53,3	59,3	55,1
Private investment company	23,1	48,8	28,3	36,3	35,6
Closely held industrial company	15,4	4,9	18,3	4,4	9,3

Panel A shows that the importance of pension funds as major owners is particularly significant in Finland, whereas investment management companies (most commonly foreign ones) clearly dominate in the other Scandinavian countries. The share of pension funds in the whole sample is nearly 25 % which is undoubtedly a high figure in international comparison. As to the sub-categories of Family shown on panel B, individuals / founders are the most common type of private owners in Scandinavia, although their share is slightly lower in Finland than in the other sample countries.

Naturally, the relative frequency of a certain owner category presented on tables 10 and 11 is not necessarily the best measure of each owner category's true importance given the potentially large differences in the size of the average voting stake held by each owner category. This was illustrated also in the difference between the results of panel A and panel B of table 10. Consequently, table 12 on the next page confirms the assumption of heterogeneous voting stakes across the owner categories and shows that the average voting stake of financial institutions of much smaller than the other major owner identities and that governments and families hold on average significantly higher stakes. These findings are in line with earlier literature (see e.g. Thomsen and Pedersen, 2000). On the other hand, the sizes of the voting stakes of different identities are relatively stable across different Scandinavian countries. The large size of the average voting stake of category Cross-Holdings in Sweden is partly due to the cross-holding nature of retailer ICA and Hakon's invest, that is controlled by the ICA retailers' association. In addition, the average voting stake of the category Miscellaneous is rather large in Denmark because some foundations are significant owners in large Danish companies as explained earlier.

Table 12: Average voting stake of different owner identities in Sample 2

Table 12 shows the average %-share of vote held by different owner identities among the five largest owners of the largest publicly quoted companies in Scandinavia.

	Denmark	Finland	Norway	Sweden	Total
Family	30,3	16,9	26,6	24,4	23,9
State	25,6	28,9	37,2	18,2	29,2
Financial Institution	4,4	4,6	5,1	4,5	4,7
Corporation	34,4	17,9	17,9	32,0	24,4
Cross-Holding	3,7	3,3	4,3	67,4	8,3
Miscellaneous	43,9	8,0	9,3	12,5	14,7

In the light of the findings of table 11, it might be useful to investigate the market cap weighted share of votes held by each owner identity to investigate their true relative importance as owners in Scandinavia. In other words, the voting stake of each identified owner is multiplied by the market capitalization of the company under review and the each owner identity's (alternative classification) share of total market cap of all the sample companies is calculated. The results are presented on table 13.

Table 13: Market cap weighted stake of each owner identity in Sample 2

Table 13 shows the combined market cap weighted %-share of votes held by each owner identity (both F&L and alternative) among the top 5 shareholders out of the total market cap of the largest publicly quoted companies in Scandinavia.

	Denmark	Finland	Norway	Sweden	Total
Family	22,9	8,0	13,0	22,3	17,0
of which					
Individual	21,4	4,8	8,1	12,2	11,1
Private investment company	0,5	3,1	1,5	9,7	4,8
Closely held ind. company	1,0	0,2	3,4	0,4	1,1
State	0,7	11,4	34,5	5,3	12,6
Financial institution	14,6	8,4	10,0	14,2	12,0
of which					
Pension fund	2,2	2,5	2,9	2,3	2,5
Insurance company	0,0	0,4	0,2	1,3	0,7
Investment management co.	11,1	5,1	5,7	5,8	6,5
Other fin. institution	1,3	0,5	1,1	4,9	2,4
Corporation	1,7	0,7	1,1	4,5	2,4
Cross-Holdings	0,3	0,1	0,3	0,2	0,2
Miscellaneous	20,8	1,9	1,2	2,6	5,1
All	61,0	30,5	60,2	49,2	49,3

At the first glance, the results shown on the bottom line of Table 13 seem surprising in comparison the non-market cap weighted levels of ownership concentration presented on table 8. The value weighted level of ownership concentration is significantly lower in Finland compared to other sample countries and the levels presented in table 8. According to table 13, the top 5 Finnish owners hold on average only 30 % of the total votes when their stakes are weighted with the market capitalization of each company. This naturally suggests that large Finnish companies tend to be more widely held than large companies in other Scandinavian countries. However, widely held Nokia dominates the total market capitalization of the Finnish sample and if it is removed, the combined share of the top 5 owners rises to 50 % also in Finland.

Nevertheless, some interesting observations can be made from Table 13. For instance, family-owned companies in Sweden and Denmark are on average significantly larger than family-owned companies in the three other sample countries. In addition, the importance of state ownership is clearly largest in Norway, although this is partly explained by government's significant stake in Norway's largest company, StatoilHydro. Finally, when looking at the value-weighted voting stakes of the different sub-categories of Family, the relative importance of individuals compared to private investment companies rises significantly. Table 13 also shows that financial institutions are important shareholders with a combined value-weighted voting stake of over 10 % despite the fact that *each individual* institutional owner tends to be small. However, they can in theory form coalitions (as suggested by e.g. Bedo and Ács, 2007) to challenge the larger shareholders and to affect the firm policies. This combined voting power of institutions which should not be ignored when associating different kinds of ownership structures with company characteristics.

The power of "financially-oriented" owners is even bigger if the traditional owner categories are abandoned for a moment and owners are categorized according to their expected "mindset". As explained in chapter 2, financial institutions can be expected to be interested to purely maximize profits whereas families might be more risk-averse and governments are usually assumed to have many non-financial objects as owners. On the other hand, as discussed in the hypotheses –section of chapter 3, the true nature of the owners classified under a certain category of Faccio and Lang (2002) varies greatly. For instance, the goals and objectives of more diversified private investment companies as owners are certainly different

from the objectives of founder families whose entire wealth can be tied in one company. Similar difference can be hypothesized to exist e.g. between state-controlled pension funds and profit-oriented mutual funds (see e.g. Woidtke, 2002). Table 14 rearranges the data presented in table 13 so that the owner categories (alternative) are classified according to four different owner "mindsets" based on the theories presented in chapter 2.

Table 14: Market cap weighted stake of four owner "mindsets" in Sample 2
Table 14 shows the combined market cap weighted %-share of votes held by four different owner mindsets among the top 5 owners out of the total market cap of the largest publicly quoted companies in Scandinavia. The names of owner categories (alternative) belonging to each mindset are presented below the name of the mindset.

Mindset	Denmark	Finland	Norway	Sweden	Total
Private interests Individual	21,4	4,8	8,1	12,2	11,1
National interests State Pension fund	3,0	13,9	37,4	7,6	15,1
Profit oriented Private investment company Insurance company Inv. management company	11,6	8,6	7,4	16,8	11,9
Corporate goals Closely held industrial comp. Corporation	2,7	0,9	4,6	4,8	3,5

Table 14 shows that if private investment companies are assumed to be interested mostly in profit maximization and classified under Profit oriented owners together with insurance companies and investment management companies, the value-weighted ownership share of profit oriented top 5 owners in large Scandinavian companies is actually higher than the ownership share of privately interested individuals (i.e. the basic meaning of family-owned companies). As discussed above, this is interesting from the point of view of coalitions theory. It is also worth noting that if pension funds are assumed to pursuit goals similar to those of governments (which can be a feasible assumption as major pension funds in Denmark, Norway, and Sweden are state-owned), the share of owners with national interests is the highest of all the mindsets. This confirms that national interests are even today strongly represented in Scandinavian listed corporations.

All in all, the evidence presented in this section clearly shows that the ownership of the largest Scandinavian companies is highly concentrated. However, another interesting question is whether the power of the largest owner is often contested by another significant shareholder. The contestability of control has been previously investigated by e.g. La Porta et al. (1999) who conclude that controlling shareholders in Europe often tend to be alone in the sense that companies seldom have several powerful owners at the same time. In theory, the existence of another significant owner could e.g. reduce the agency conflicts between the controlling shareholder and minority shareholders by making the extraction of private benefits of control more difficult. Table 15 shows the percentage of the sample companies having a controlling shareholder with over 20 % voting stake that have a second owner holding more than 5 percent of the total votes.

Table 15: Multiple significant owners in Sample 2

Table 15 shows the %-of companies with one, two or more significant shareholders in addition to one controlling shareholder (20 % threshold for concentrated ownership).

	Denmark	Finland	Norway	Sweden	Total
No other holding > 5	56,3	30,4	23,8	36,7	33,8
At least one holding > 5	43,8	69,6	76,2	63,3	66,2
At least two holding > 5	12,5	47,8	45,2	36,7	38,5
Three or more holding > 5	0,0	26,1	19,0	18,4	17,7

According to Table 15 – and contrary to the findings of e.g. Becht and Mayer (2001) in a broader European context – the contestability of control actually appears to be relatively common in Scandinavia as two thirds of the companies with the largest owner holding more than 20 percent of the votes have at least one other significant shareholder behind the controlling one. The existence of multiple powerful owners is particularly common in Norway and Finland. The finding provides with further support with hypothesis 2 presented in section 3.3 stating that the effect of a second significant shareholder on firm performance is not necessarily significant in Scandinavia despite the findings obtained from other regions. As can be seen from Table 15, the Scandinavian ownership structures are indeed unique also in the sense than multiple powerful blockholders are present at the same time. Thus the findings from other geographic and cultural areas should not be applied to Scandinavia without additional testing.

Finally, as discussed in section 4.1, discrepancy between ownership and control has at least traditionally been common in Scandinavia (see e.g. La Porta et al., 1999). Multiple share classes with differentiated voting rights and pyramid holding structures both result in deviation from equal cash flow and voting rights. Although the data collection method used would basically enable the investigation of both the above-mentioned channels and thus achieve reliable results of the level of discrepancy between ownership and control, the amount of time and effort required to track down the pyramid holding structures makes the analysis difficult in practice. Consequently, this study focuses on descriptive investigation of the commonness of multiple share classes with differentiated voting rights in Scandinavia and leaves the more detailed investigation e.g. pyramid structures and their effects for future studies. Table 16 shows the percentage share of sample companies with multiple share classes and further splits these companies according to the identity of the controlling shareholder.

Table 16: Existence of multiple share classes in Sample 2

Table 16 shows the %-share of companies with multiple share classes and splits these companies according to the identity of the controlling shareholder (F&L).

	Denmark	Finland	Norway	Sweden	Total
Only one share class	72,4	74,4	90,7	47,1	68,9
Multiple share classes	27,6	25,6	9,3	52,9	31,1
of which					
Widely Held	3,4	4,7	0	4,3	3,1
Family	6,9	14,0	7,4	37,1	19,4
State	0,0	0	1,9	0	0,5
Financial institution	0	0	0	4,3	1,5
Corporation	0	2,3	0	4,3	2,0
Cross-Holdings	0	0	0	0	0
Miscellaneous	17,2	4,7	0	2,9	4,6

As can be seen from Table 16, multiple share classes are indeed common in Scandinavia. The share of companies with multiple share classes is particularly high in Sweden where over 50 % of the sample companies had more than one class of common shares. This is in line with the findings of Cronqvist and Nilsson (2003) who document that in the mid 1990s over 75 % percent of public Swedish companies had dual class shares. In contrast to the other Scandinavian countries, multiple share classes are relatively rare in Norway. Not surprisingly, most of the companies with multiple share classes are controlled by family and almost none of the companies with multiple share classes are widely held. Also these findings are in line with those of Cronqvist and Nilsson (2003).

4.3 Effects of concentrated ownership and owner identity

The descriptive investigation of Scandinavian ownership structures presented in sections 4.1 and 4.2 clearly shows the high level of ownership concentration and the importance ownership by individuals, governments, and pension funds in Scandinavia. The following section concludes the empirical analysis by associating the level of ownership concentration and the identities of major shareholders with company performance. All the hypotheses presented in section 3.3 will be tested using t-tests for the differences in means. Also cross sectional multivariate regression is used to check the robustness of the initial findings.

As explained in section 3.1, firm performance is proxied using six different accounting and stock market measures (performance variables hereafter) collected from Thomson One Banker for the Sample 2 companies. However, the performance variables of some of the Norwegian holding companies operating in the oil industry were excluded from the final analysis as they seriously biased the empirical results (companies with country code Norway and GICS sector 10 – Energy were eliminated). Also some otherwise eligible companies are excluded from the final sample due to lack of available performance data. Thus the final number of companies used in the final section of the empirical part to evaluate the connection between ownership structures and firm characteristics is smaller than 196 (which is the original size of Sample 2) and varies with the chosen performance measure. The final number of observations of different performance variables and their average and median values within the Sample 2 companies along with the exact definitions are presented on table 17.

Table 17: Performance variables used in the study

Table 17 shows the abbreviations of the performance variables used in the study, the exact definition of each variables as well as the number of observations, mean, and standard deviation of each variable. Note than return on equity, EBITDA volatility, sales growth and dividend yield are presented in percentage terms.

Variable	Definition	Number of obs.	Mean	Std Dev.
MBV	Market value of equity on April 8, 2008 divided by book value of equity at year-end 2007	174	2,94	2,25
ROE	Net earnings 2007 divided by book value of equity at year-end 2007 (%)	174	22,3	16,1
SALES / ASSETS	Net sales 2007 divided by book value of assets at year-end 2007	176	0,92	0,65
EBITDA VOL.	5-year annual standard deviation of earnings before interest, taxes, and depreciation divided by 5-year average EBITDA (2003-2007) (%)	170	49,9	45,2
SALES GROWTH	Change in net sales between 2007 and 2006 (%')	176	16,0	29,2
DIVIDEND YIELD	Most recent proposed or paid dividend per share divided by the share price on April 8, 2008 (%)	176	3,9	2,9

The analysis begins by investigating the differences in the means of different performance variables classified by different groups of ownership concentration. The results are presented on table 18. Firstly, on the left side of the table companies are split into Widely Held and Concentrated companies depending on whether or not the largest owner holds more than 20 percent of the total votes. Secondly, companies whose ownership is classified as concentrated are further split into two categories depending on whether or not *at least* one other major owner holds more than 5 percent of the total votes (Another = Yes means that at least one such shareholder exists). Finally, the right side of Table 18 shows the same categories using 10 percent threshold for concentrated ownership instead of 20 percent threshold.

After calculating the group means, they are compared with the means of other groups on the same row using standard t-test described in section 3.2. The group mean with stars attached to it is found to be statistically significantly different from the other group mean that has stars attached to it. One, two, and three stars reflect significance at the 10, 5, and 1 percent level, respectively.

Table 18: Performance variables and ownership concentration

The left hand side of Table 18 shows the means of different performance variables depending on whether or not the largest owner holds over 20 % of the votes. Those companies whose largest owner holds over 20 % of the votes are further split into two groups depending on whether or not at least one other major owner holds more than 5 % of the total votes. The right hand side of the table shows the same statistics using 10 % threshold for concentrated ownership instead of the 20 % thresholds. Group means with stars are statistically significantly different from each other. One, two, and three stars reflect significance at the 10, 5, and 1 percent level, respectively.

	20 % Threshold				10 % Threshold			
Variable	**Widely Held**	**Con**	**Another = Yes**	**Another = No**	**Widely Held**	**Con**	**Another = Yes**	**Another = No**
MBV	3,11	2,85	2,66*	3,22*	2,80	2,96	2,90	3,11
ROE	23,5	21,6	21,9	21,1	21,4	22,4	23,2	20,5
SALES / ASSETS	0,88	0,93	0,93	0,94	1,10	0,90	0,87	0,96
EBITDA VOL.	52,8	48,4	46,3	52,2	44,0	50,5	50,1	51,5
SALES GROWTH	15,3	16,4	19,6**	10,6**	12,2	16,4	18,6*	11,2*
DIVIDEND YIELD	4,3	3,7	3,8	3,5	3,6	4,0	4,0	3,9

As can be seen from the first two columns on the both sides of table 18, the general relationship between ownership concentration and all the performance variables is found to insignificant. In other words, whether or not a company is classified as widely held or concentrated (using either of the thresholds) does not appear to make a significant difference in Scnadinavian context. This kind of result was also suggested in the hypothesis 1. Still, it is worth noting that the direction of the relationship of the M/B multiple is in line with the predictions of Morck et al. (1988) and Thomsen and Pedersen (2000) who find that the relationship between company value and ownership concentration is quadratic. This is reflected on table 18 as companies regarded as widely held with 10 % threshold experience slightly lower average M/B multiple but when 20 % threshold for concentrated ownership is used, the relation is reversed and companies with concentrated ownership have a lower average M/B multiple. Consequently, this suggests that the value-maximizing level of the voting stake of the largest owner would be somewhere between 10 and 20 percent. However, as the MBV group means not are significantly different from each other and the overall relationship between ownership concentration and valuation seems extremely vague.

The null hypothesis of the irrelevancy of ownership concentration cannot be rejected for any of the performance variables and, in addition to MBV, there are only a few notable (although not statistically significant) differences in the group means of the other performance variables. This is not particularly surprising since it is relatively hard to hypothesize the effect of ownership concentration on e.g. risk taking or operational efficiency without taking the identity of the largest shareholder into account. Therefore, the evidence of table 18 strongly

supports the hypothesis 1 suggesting that the general effect of ownership concentration on firm performance measured by the voting stake of the largest shareholder is negligible in Scandinavia.

The third and fourth column on the both sides of table 18 measure another interesting aspect of ownership structure, namely the impact of the contestability of the power of the controlling shareholder. This is measured by the effect of having at least one other significant owner (holding more than 5 percent of the votes) in the companies that are initially regarded as concentrated (using either of the thresholds). Conclusion from the analysis is that the existence of a second significant shareholder is not associated with positive impact on firm performance in terms of valuation or profitability, which is in line with the prediction of the hypothesis 2. On the contrary, the relationship between the existence of a second significant shareholder and M/B multiple appears to be *negative* and significant (at the 10 percent level when the 20 % threshold for concentrated ownership is used) which is rather surprising and contradicts with the earlier findings of Maury and Pajuste (2005) and López-de-Foronda et al. (2007) who show that the existence of a second reference shareholder might have positive effects due to ability to reduce the private benefits extracted by the largest shareholder. On the other hand, as suggested by Bedo and Ács (2007), also a negative impact is possible due to conflicts between the powerful rival owners.

The only performance variable on table 18 with which the null hypothesis of no difference in means between the groups is rejected at the 5 percent level is sales growth that appears to be significantly higher with the companies that have a powerful second owner in addition to the largest owner holding more than 20 % of the votes. The same difference is significant at the 10 percent level also on the right side of the table when the lower threshold for concentrated ownership is used. This implies that the second reference shareholder still has some impact on firm behavior resulting in higher appetite for growth and thus less risk-averse behavior. The argument is related to the theory presented by e.g. Fama and Jensen (1985) who state that concentrated family ownership may lead to more conservative strategies and risk aversion due to poor diversification. As family ownership is common in the Nordic countries, the existence of a second powerful shareholder might result more growth-oriented strategy. However, due to the relatively low number of observations, additional empirical evidence is needed before

the hypothesis 2 of the irrelevancy of the presence of a second significant shareholder could be rejected.

After concluding that the effect of ownership concentration in Scandinavia appears to be insignificant for the most part, the analysis continues with investigation of the relationship between different first owner identities and the means of the performance variables. Table 19 presents the means of different performance variables by the identity of the largest shareholder. The left side of table 19 splits owner identities according to four major F&L categories and on the right side of the table the largest F&L category Family is further split into three sub-categories. Again, group means with stars attached to them are statistically significantly different from each other.

Table 19: Performance variables and the identity of the largest owner

The left hand side of Table 19 shows the means of different performance variables by the identity of the largest shareholder (F&L). The right hand side further splits the F&L category Family into Individuals, Private Investment Companies, and Closely Held Industrial Companies. Group means with stars are statistically significantly different from each other. One, two, and three stars reflect significance at the 10, 5, and 1 percent level, respectively.

	Faccio & Lang				Sub-categories of Family		
Variable	Family	State	Financial Institution	Corporation	Individual	Private Inv. Company	Closely Held Ind. Company
MBV	2,98	1,94**	3,45**	3,31	3,19	2,58	3,60
ROE	20,6*	22,9	28,0*	22,5	21,0	18,4	29,0
SALES / ASSETS	0,89	0,88	1,01	0,86	0,87	0,89	1,08
EBITDA VOL.	49,4	43,7*	51,8*	43,2	51,4	44,3	61,3
SALES GROWTH	15,1	14,5	15,0	17,0	12,3	16,1	28,0
DIVIDEND YIEL	3,9	4,2	3,7	3,7	3,4	5,0	1,9

Table 19 suggests that the identity of the major owner is truly a more relevant factor in Scandinavia than the level of ownership concentration – as predicted in the hypotheses section. For instance, ownership by financial institution is associated with high valuation (market-to-book multiple), high profitability, efficient asset utilization and high risk-taking behavior in terms of 5-yr EBITDA volatility (standardized by 5-yr average EBITDA) as suggested in hypothesis 3. On the other hand, state-owned companies experience, on average, lower valuation than companies with other type of largest shareholder. The difference in the M/B multiple between state-owned companies and companies owned by financial institutions is also statistically significant at the 5 percent level. The findings are in compliance with hypotheses 3 and 4 and earlier empirical findings of Thomsen and Pedersen (2000, 2003) who used continental European data in their studies and find that institutional ownership is

associated with e.g. higher valuation and profitability whereas state-ownership has negative impacts on firm performance. Also Cronqvist and Nilsson (2003) find evidence of a *relatively* favorable impact of having a financial institution as a controlling owner in their study of Swedish ownership.

Contrary to expectations, family ownership does not appear to be associated with lower sales growth or lower EBITDA volatility as predicted by the theory of Fama and Jensen (1985). However, as discussed in the previous sections, category Family potentially includes many different kinds of owners. Therefore, the right hand side of table 19 shows the category family further split into individuals, private investment companies and closely held industrial companies. Due to low degrees of freedom statistical tests are no longer applicable, but the results still suggest that firms owned by closely held industrial companies indeed have similar characteristics to those firms owned by widely held corporations (e.g. in terms of relatively high valuation, high ROE and high sales growth). In addition, the average sales growth of the companies where individual / founder is the largest shareholder is notably lower than the sales growth of other types of companies, which is in line with hypothesis 5.

Based on the above analysis, all the main hypotheses related to the favorable impact of institutional ownership, adverse effects of state ownership and low risk associated with family ownership are at least partly supported. Still, in order to further investigate the effect of owner identity on company performance, robustness checks are needed. Therefore, instead of using financial data from 2007 when calculating the values of the performance variables, I use the 5-year average values of each performance variable and recalculate the means for different owner identity groups. Although I still have only static ownership data from 2008, the usage of historical values of the performance variables might be justified since, as alleviated by e.g. Holderness (2003), ownership structures and blockholdings are often relatively stable.

Using the 5-year average values of performance variables does not materially change the conclusion of the insignificant effect of ownership concentration shown on table 18. Therefore, the 5-year analysis of the relationship between ownership concentration and the performance variables is not shown separately. However, some of the results regarding the identity of the largest shareholder do change when the 5-year average values of the performance variables are used. These results are presented on table 20 (with the exception of

EBITDA standard deviation that was already presented as a 5-year cumulative value on table 19).

Table 20: 5-year average performance variables and the identity of the largest owner
The left hand side of Table 20 shows the means of different 5-year average performance variables by the identity of the largest shareholder (F&L). The right hand side further splits the F&L category Family into Individuals, Private Investment Companies, and Closely Held Industrial Companies. Group means with stars are statistically significantly different from each other. One, two, and three stars reflect significance at the 10, 5, and 1 percent level, respectively.

	Faccio & Lang				Sub-categories of Family		
Variable	**Family**	**State**	**Financial Institution**	**Corporation**	**Individual**	**Private Inv. Company**	**Closely Held Ind. Company**
MBV 5	2,77	1,88**	3,42**	2,72	3,02	2,45	2,87
ROE 5	19,8	15,7*	21,5*	17,6	21,7	16,3	25,3
SALES / ASSETS 5	0,92	0,91	1,01	0,86	0,89	0,96	0,99
SALES GROWTH 5	12,1**	5,5**	10,8	8,5	14,3	7,9	17,7
DIVIDEND YIELD 5	3,5	3,7	3,2	3,9	3,2	4,0	2,9

As can be seen from table 20, ownership by financial institution is still associated with the highest M/B multiple, return on equity, and asset efficiency as was the case when 2007 performance variables were used. Similarly, state ownership is still associated with the lowest M/B multiple and the difference between the group means of state and financial institution is also statistically significant at the 5 percent level. On the other hand, the picture given by table 19 has changed slightly when looking at the average profitability (ROE) of the family-owned and state-owned companies. Control by family is no longer associated with the lowest average return on equity. Instead, the state-owned companies have experienced the worst long term performance, which is in line with the previous empirical findings of D'Souza and Megginson (1999) of the ineffectiveness of state-owned companies and the hypothesis 4. The difference in the average level of ROE between state-owned and institutionally controlled companies is also significant at the 10 percent level.

The most notable difference between the results of tables 19 and 20 is in the average sales growth of each identity group. As can be seen on table 20, family-owned companies have actually had the *highest* average sales growth during the 5-year observation period whereas state-owned companies have grown the slowest. Furthermore, when looking at the sub-categories of family presented on the right side of the table it can be seen that companies controlled by founder/individual have actually experiences higher rates of sales growth than the more diversified private investment companies. The connection between family ownership and faster than average sales growth might seem intuitively surprising, but a

similar result was also reached by Thomsen and Pedersen (2000). They rationalize that the finding could be due to families' concern for survival which can lead to excess growth (often at the expense of profitability and firm value). Whatever the reason, the finding effectively leads to the rejection of hypothesis 5 suggesting that family-owned companies are associated with more risk-averse behavior.

Finally, in order to fully confirm the validity of the hypotheses 1 - 4, an analysis relying purely on t-tests might not be enough. Firstly, I want to confirm that the effect of concentrated ownership on company performance is indeed insignificant when controlled with the identity of the largest owner. Secondly, I want to find out whether *higher* institutional voting stake (as opposed to simply financial institution as the largest owner) is associated with favorable impact on company performance. If this is not the case, one could argue that the positive relationship between institutional ownership and M/B multiple observed on tables 19 and 20 was only due to the fact that, on average, institutions own much smaller voting stakes than the other major owner identities. Consequently, for a final robustness check I estimate two cross-sectional multivariate regression models originally introduced in section 3.2. I follow the approach of many previous studies and focus on the M/B multiple as a proxy for company performance. This simplifies the analysis and enables a more accurate comparison of the results to findings of the earlier studies.

Among the control variables, the regression model includes a separate dummy variable for financial companies (GICS sector code 40) since the valuation and other performance measures of financial institutions might not be comparable to companies operating in other industries (as suggested by e.g. Claessens et al., 2002). Table 21 shows the abbreviations and the exact definitions of all the explanatory variables used in both of the regression models.

Table 21: Definitions of the variables used in the regression models

Variable name	Definition
VOTES1	The voting stake of the largest shareholder of company i (%)
VOTES1P2	The voting stake of the largest shareholder of company i raised to the power of two (%)
VOTES2	The voting stake of the second largest shareholder of company i (%)
COR	Dummy variable that takes the value of 1 if the largest owner of company i is classified as Corporation according to Faccio & Lang, otherwise zero
DE	Debt to equity ratio of company i at year-end 2007
FAM	Dummy variable that takes the value of 1 if the largest owner of company i is classified as Family according to Faccio & Lang, otherwise zero
FIN	Dummy variable that takes the value of 1 if the largest owner of company i is classified as Financial Institution according to Faccio & Lang, otherwise zero
FINSECT	Dummy variable that takes the value of 1 if the company under review is operating in the financial industry (GISC industry sector code 40), otherwise zero
SALES	Natural logarithm of the sales of company i in fiscal year 2007 (€)
STA	Dummy variable that takes the value of 1 if the largest owner of company i is classified as State according to Faccio & Lang, otherwise zero

The first regression model investigates the general effect of the voting stake of the largest and the second largest shareholder on M/B multiple while controlling for the identity of the largest owner. Also the squared term of the voting stake of the largest shareholder is included to capture the potentially non-linear relationship between ownership concentration and firm performance suggested by Morck et al. (1988) and more recently Thomsen and Pedersen (2000). The findings of table 18 suggested that this kind of non-linear relationship might be possible also in the Scandinavian context. The coefficients of the first regression model are presented on table 22 with the coefficient values and their robust t-statistics for the explanatory variables in rows. One, two and three stars indicate statistical significance at 10, 5, and 1 percent level, respectively.

Table 22: Regression coefficients for model 1

Table 22 shows the regression coefficients and their robust t-values for the first regression model introduced in section 3.2. First three columns show the different explanatory variables of interest one at a time and all the variables are presented simultaneously in the fourth column. Sales and D/E ratio whose explanatory power is found to insignificant in the fourth regression are excluded from the model shown in the fifth column. One, two and three stars indicate statistical significance at 10, 5, and 1 percent level, respectively.

	Dependent variable MBV									
	(1)		(2)		(3)		(4)		(5)	
CONSTANT	3,578	1,43	3,533	1,41	3,737	1,50	3,210	1,29	3,270	5,35***
SALES	-0,015	-0,14	0,022	0,20	0,015	0,14	0,006	0,06		
DE	0,000	-0,90	0,000	-1,07	0,000	-0,94	0,000	-0,49		
FINSECT	-1,586	-4,50***	-1,663	-4,63***	-1,650	-4,54***	-1,597	-4,24***	-1,799	-5,80***
VOTES1	0,000	0,03	-0,057	-2,19**	-0,051	-1,76*	-0,018	-0,54	-0,002	-0,05
VOTES1P2			0,001	2,26**	0,001	1,80*	0,000	0,74	0,000	0,12
VOTES2					-0,016	-0,59	-0,025	-0,98	-0,034	-1,35
COR							0,602	0,80	0,659	0,88
FAM							0,265	0,61	0,409	0,96
FIN							0,721	1,29	0,719	1,38
STA							-0,708	-1,58	-0,766	-1,78*
R-SQUARED	0,12		0,14		0,14		0,16		0,16	
OBSERVATIONS	161		161		161		161		161	

The coefficient of VOTES1 in the first column of table 22 shows that the linear effect of the voting stake of the largest shareholder on M/B multiple is highly insignificant. Also the natural logarithm of sales and the D/E ratio used as control variables are significant. However, as predicted by e.g. Claessens et al. (2002), the coefficient of the dummy variable obtaining the value of one if the company under review operates in the financial industry has a negative value significantly different from zero. The pictures changes dramatically when the squared term of the voting stake of the largest shareholder in included in the model in the second column of table 22. The coefficients of both of the voting stake variables are significant and the relationship appears to be quadratic as predicted by Thomsen and Pedersen (2000). On the other hand, the signs of the coefficients suggest that the relationship between ownership concentration and firm value is still negative rather than first increasing and then decreasing which supports the earlier empirical findings of Cronqvist and Nilsson (2003) from Sweden.

The third column of table 22 includes the voting stake of the second largest shareholder (VOTES2) as an explanatory variable. The coefficient is rather surprisingly negative (as was also implied by the results of table 18), which is against the findings of Maury and Pajuste (2005) and López-de-Foronda et al. (2007) who show that a powerful second shareholder can have a beneficial impact on firm performance. However, their results were obtained from different geographic regions and also opposite empirical evidence have been provided by e.g. Bedo and Ács (2007) who conclude that powerful second owners may lead to conflicts that adversely affect firm performance. In any case, the coefficient of the voting stake of the second shareholder is insignificant and thus the effect is most likely negligible, which was predicted in hypothesis 2. This is also in line with earlier empirical findings of Zhang (2004).

The picture changes again completely when dummy variables controlling for four major owner identities (according to F&L) are included in the model. As can been seen from the fourth column of table 22, the coefficients of the voting stake of the largest shareholder and its squared term become insignificant and it can be concluded that when looking at the year-end 2007 situation, the level of ownership concentration has no significant effect on firm performance (measured by M/B multiple in this case) after controlling for owner identity. This is in line with the hypothesis 1 and the view presented by e.g. Holderness (2003) suggesting that the impact of ownership concentration on firm value is insignificant. The results differ from those of Thomsen and Pedersen (2003) and Cronqvist and Nilsson (2003). Thomsen and Pedersen find a positive relationship between ownership concentration and firm value but I believe the difference is mostly due to different legal and cultural context of the sample companies. Cronqvist and Nilsson, on the other hand, do not control for the effect of owner identity.

Finally, it is worth noting that none of the owner identity dummies obtains values significantly different from zero in the fourth column. This is most likely due to small sample size and especially the coefficients of *financial institution* and *state* obtain relatively high t-values. Actually, the coefficient of state actually becomes significant at the 10 percent level when the natural logarithm of sales and D/E ratio, with relatively poor explanatory power, are excluded from the model. This is reflected in the fifth column of table 22.

Results of tables 19 and 20 suggested that ownership by government is associated with relatively poor firm performance reflected among others in a lower average M/B multiple and that institutional ownership might have a beneficial impact on firm performance. The second regression model shown on table 23 further checks the robustness of these findings by interacting the voting stake of the largest shareholder with the identity of the largest shareholder (four major F&L categories) in order to estimate the *combined* effect of increased ownership concentration and owner identity on M/B multiple. Similar methodology was used by e.g. Thomsen and Pedersen (2000). Again, one, two and three stars behind the t-values indicate statistical significance at 10, 5, and 1 percent level, respectively.

Table 23: Regression coefficients for model 2

Table 23 shows the regression coefficients and their robust t-values for the second regression model introduced in section 3.2. First four columns show the different explanatory variables of interest one at a time and all the variables are presented simultaneously in the fourth column. One, two and three stars indicate statistical significance at 10, 5, and 1 percent level, respectively.

	Dependent variable MBV									
	(1)		(2)		(3)		(4)		(5)	
CONSTANT	3,682	1,47	3,556	1,42	3,695	1,49	3,032	1,22	3,278	1,28
SALES	-0,021	-0,19	-0,015	-0,14	-0,024	-0,22	0,015	0,14	-0,003	-0,03
DE	0,000	-0,85	0,000	-0,91	0,000	-1,12	-0,001	-1,21	-0,001	-1,08
FINSECT	-1,606	-4,55***	-1,590	-4,41***	-1,518	-4,39***	-1,589	-4,55***	-1,549	-4,29***
VOTES1									0,001	0,05
COR * VOTES1	0,013	0,73							0,012	0,59
FAM * VOTES1			0,001	0,12					0,001	0,05
FIN * VOTES1					0,027	2,55**			0,024	1,74*
STA VOTES1							-0,027	-3,70***	-0,024	-1,97**
R-SQUARED	0,12		0,12		0,13		0,15		0,17	
OBSERVATIONS	161		161		161		161		161	

The first four columns of table 23 show the product terms of the identity and the voting stake of the largest shareholder one by one thus measuring their individual impact on firm value. All the products terms together with the "general" voting stake of the largest shareholder (VOTES1) are included in the regression shown in the fifth column of the table 23. Note that in this case the coefficients of the product terms measure the *incremental* effect of the variables in addition to the general effect of ownership concentration. The results clearly

indicate that, as predicted in the hypotheses –section, owner identity cannot be ignored when investigating the effect of ownership structure. The third column of table 23 indicates that higher voting stake of a *financial institution* (FIN * VOTES1) is significantly positively associated with firm value. In addition, as can be seen from the fourth column, higher *governmental* voting stake is associated with significantly lower M/B multiple. Both coefficients remain significant also in the final column of the table where all the explanatory variables are included simultaneously. It is also worth noting that the coefficient of the general effect of the voting stake of the largest shareholder (VOTES1) is effectively zero confirming that the "identity-neural" effect of the voting stake of the largest shareholder is indeed negligible.

The coefficients of the two other owner identities, *corporation* and *family*, are found to be insignificant. As to corporations, the result is most likely due to small sample size (there is only a limited number of corporate owners in Scandinavia). On the other hand, the coefficient of category family is extremely close to zero even though the number of observations is much higher. This is not surprising in the sense that the previous empirical evidence of the effects of family ownership is relatively mixed (see e.g. Cronqvist and Nilsson, 2003; Thomsen and Pedersen, 2003). Furthermore, as suggested earlier in the discussion related to table 14 of section 4.2, the category family includes a broad range of different kinds of private owners with different kinds of objectives, which makes finding clear empirical results more difficult. My personal suggestion for the purposes of future research is to try to more effectively capture the "mindsets" of the different private owner types and then investigate the effects of these "mindsets" on firm performance.

In sum, the regression results presented on tables 22 and 23 do not change the direction of the relationships presented in tables 18 and 19 and the general conclusions of the analysis remain the same. The general impact of the voting stake of the first and second shareholder on company performance is highly insignificant at least when it is controlled with owner identity. On the other hand, the impact of the identity of the largest shareholder on firm performance is clearly observable in case of owners classified as financial institutions and governments. Having financial institution as the largest owner is associated with higher valuation, higher profitability, more efficient asset utilization and higher operating risk. In addition, state-ownership is associated with lower valuation, less effective asset utilization,

and lower average sales growth in the long run. Based on the evidence, I accept hypotheses 1, 2, 3 and 4 and conclude that the impact of the identity of the largest shareholder on firm performance indeed is larger than the impact of the level of ownership concentration – at least in the Scandinavian legal and cultural context. On the other hand, as family-owned companies have experienced high rates of sales growth, I reject hypothesis 5 suggesting that family-ownership would be associated with more risk-averse and conservative company performance.

5. Conclusion

This study investigated corporate ownership structures in Scandinavia. The first part of the empirical study compared the ownership structures of the largest Scandinavian companies to the ownership structures of the largest companies in Germany, Japan and the USA. The main findings of this section are that ownership in Scandinavia is, on average, highly concentrated compared to the other geographical regions. In Scandinavia, only 5 percent of the 20 largest companies are classified as widely held when the 10 percent threshold for concentrated ownership is used. For comparison, the corresponding figure in both Japan and the USA is 80 percent. The results are interesting especially in comparison to the earlier findings of Faccio and Lang (2002) who report much lower level of ownership concentration among the 20 largest companies in Sweden. In addition to the level of ownership concentration, the identities of the major shareholders differ significantly across regions. Although financial institutions are the most common type of major owner also in Scandinavia, the proportional share of owner classified as families is significant compared to Japan and the USA. This is in line with earlier findings of e.g. La Porta et al. (1999). Finally, also the type of financial institutions varies significantly by region as pension funds are significant stakeholders in Scandinavia whereas insurance companies hold large stakes in Japan. In the USA, investment management companies (usually mutual funds) are the largest single shareholder group.

The empirical study continued by investigating the ownership structures in Scandinavia in more detail. The more comprehensive picture of the level of ownership concentration in Scandinavia is similar to the picture given by the smaller sample of the largest Scandinavian companies suggesting that the concentrated ownership in Scandinavia is truly imbedded in the corporate culture and that larger companies are not much more widely held than smaller companies on average. This is against the patterns of ownership concentration observed in many other geographical regions where the ownership of large companies tends to be more dispersed compared to small companies (La Porta et al., 1999). Additional findings of the second part of the study were e.g. the relatively high average voting stake held by the second largest owner in the Scandinavian countries. This combined with the fact that the existence of at least one other significant shareholder (holding > 5 % of the votes) in addition to the largest owner is relatively common in Scandinavia further alleviates the unique nature of ownership in Scandinavia. In comparison, controlling shareholders in e.g. continental Europe are often

alone (Becht and Mayer, 2001). As to the differences between the ownership structures of the Scandinavian sample countries, the level of ownership concentration was found to be slightly lower in Finland where the average size of the voting stake of the largest shareholder was slightly over 26 percent compared to over 35 in the three other Scandinavian countries. The ownership appears to be the most concentrated in Sweden where only slightly under 5 percent of the companies where classified as widely held with the 10 % threshold for concentrated ownership.

The empirical study concluded with the investigation of the relationship between ownership structures and company performance in Scandinavia. The effect of the level of ownership concentration measured by the voting stakes of the two largest shareholders was found to be insignificant, at least when controlled with the identity of the largest owner. In contrast, owner identity was observed to have a significant effect on firm performance as owners classified as financial institutions were associated with higher valuation, profitability and asset efficiency and state-owned companies were connected to lower valuation, lower profitability and lower sales growth. All in all, the evidence clearly shows that in the Scandinavian cultural environment the identity of the major shareholder is much more important than the absolute level of ownership concentration. The result is in line with the emerging academic literature (see e.g. Thomsen and Pedersen 2000 and 2003) pointing out the significance of owner identity and emphasizing that ownership structures should not be investigated without focusing on the identity of the major owners. The results of the study are also compliant with the literature of the effects of different legal and cultural systems on corporate governance (see e.g. La Porta et al., 1997 and 1998) suggesting that the importance of ownership structure depends on the cultural context in which it is analyzed.

As the study was able to address only a small part of the vast number of potential questions relating to the impacts and importance of corporate ownership structures, there are naturally multiple suggestions for further research. Firstly, a larger dataset with observations on ownership structures and firm performance variables from multiple time periods would enable a more accurate statistical investigation of the impacts of ownership structures and also a broader range of potential research topics. Using a panel-data regression model in the analysis could potentially remove the problems associated with unobserved firm heterogeneity (Holderness, 2003). Also instrumental variable techniques similar to e.g. Thomson and

Pedersen (2003) or Zhang (2004) could be used also in the Scandinavian context in order to control for the potentially endogenous nature of ownership structure and firm characteristics. Future studies with larger datasets could also focus on e.g. the importance of owner identity in coalitions (multiple smaller owners with same identity can potentially form coalitions to pursuit their common goals) as suggested by e.g. Bedo and Ács (2007). Also the impact of the identity of the second largest shareholder and the other smaller shareholders in general could be an interesting research topic that has not been studied before.

Finally, a more comprehensive dataset with larger number of observations could also be used to investigate the more detailed split of owner identities – for instance, the characteristics of pension fund ownership could be investigated in more detail in the spirit of Woidtke (2002). Section 4.2 of the study pointed out the importance of owner "mindset" as opposed to simply focusing on the identity of the owner. For example, a founder of a company has certainly objectives significantly different from the objectives of an aggressive corporate rider. Similarly, the objectives of state-owned pension funds and private mutual funds might differ. Still, the standard procedure is to classify many different kinds of owners under a broad category called "family" or "financial institution" which will inevitably results in less reliable empirical results. A model trying to explain the relationship between owner "mindset" and firm performance rather than owner identity and firm performance might be able to address this problem effectively.

6. References

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7. Appendices

Appendix A: List of Sample 1 companies

Exxon Mobil Corp	USA	Nokia Oyj	Scandinavia
General Electric Co	USA	StatoilHydro ASA	Scandinavia
Microsoft Corp	USA	AP Moller - Maersk AS	Scandinavia
AT&T Inc	USA	TeliaSonera AB	Scandinavia
Wal-Mart Stores Inc	USA	Hennes & Mauritz AB	Scandinavia
Procter & Gamble Co	USA	Fortum Oyj	Scandinavia
Bank of America Corp	USA	Ericsson LM Telefonaktiebolaget	Scandinavia
Johnson & Johnson	USA	Nordea Bank AB	Scandinavia
Chevron Corp	USA	Telenor ASA	Scandinavia
Altria Group Inc	USA	Novo Nordisk AS	Scandinavia
JPMorgan Chase & Co	USA	Volvo AB	Scandinavia
Pfizer Inc	USA	Danske Bank A/S	Scandinavia
Cisco Systems Inc	USA	Scania AB	Scandinavia
Berkshire Hathaway Inc	USA	Atlas Copco AB	Scandinavia
International Business Machines Corp	USA	Sandvik AB	Scandinavia
Citigroup Inc	USA	Svenska Handelsbanken AB	Scandinavia
American International Group Inc	USA	DnB NOR ASA	Scandinavia
Coca-Cola Co	USA	Skandinaviska Enskilda Banken AB	Scandinavia
Google Inc	USA	Sampo Oyj	Scandinavia
Intel Corp	USA	Investor AB	Scandinavia
E.ON AG	Germany	Toyota Motor Corp	Japan
Siemens AG	Germany	Mitsubishi UFJ Financial Group Inc	Japan
Deutsche Telekom AG	Germany	NTT (Nippon Tel & Tel)	Japan
Allianz SE	Germany	NTT DoCoMo Inc	Japan
Daimler AG	Germany	Nintendo Co Ltd Kyoto	Japan
Volkswagen AG	Germany	Sumitomo Mitsui Financial Group Inc	Japan
RWE AG	Germany	Canon Inc	Japan
BASF SE	Germany	Takeda Pharmaceutical Co Ltd	Japan
Bayer AG	Germany	Mizuho Financial Group Inc	Japan
SAP AG	Germany	Matsushita Electric Industrial Co Ltd	Japan
Deutsche Bank AG	Germany	Honda Motor Co Ltd	Japan
Münchener Rückversicherungs AG	Germany	Sony Corp	Japan
Deutsche Post AG	Germany	Nissan Motor Co Ltd	Japan
Deutsche Boerse AG	Germany	Nippon Steel Corp	Japan
BMW (Bayer Motoren Werke)	Germany	KDDI Corp	Japan
ThyssenKrupp AG	Germany	Mitsubishi Corp	Japan
Linde AG	Germany	Mitsubishi Estate Co Ltd	Japan
Commerzbank AG	Germany	Tokyo Electric Power Co Inc	Japan
MAN AG	Germany	East Japan Railway Co	Japan
Continental AG	Germany	Mitsui & Co Ltd	Japan

Appendix B: List of sample 2 companies

A.P. Møller - Mærsk A/S	Denmark	Nokian Renkaat Oyj	Finland
Novo Nordisk A/S	Denmark	Kesko Oyj	Finland
Danske Bank A/S	Denmark	SanomaWSOY Oyj	Finland
Vestas Wind Systems A/S	Denmark	Elisa Oyj	Finland
TDC A/S	Denmark	Pohjola Pankki Oyj	Finland
Carlsberg A/S	Denmark	YIT Oyj	Finland
TrygVesta A/S	Denmark	Orion Oyj	Finland
FLSmidth & Co. A/S	Denmark	Cargotec Oyj	Finland
H. Lundbeck A/S	Denmark	Stockmann Oyj Abp	Finland
William Demant Holding A/S	Denmark	Konecranes Oyj	Finland
Novozymes A/S	Denmark	Outotec Oyj	Finland
D/S Norden	Denmark	Ramirent Oyj	Finland
DSV A/S	Denmark	Kemira Oyj	Finland
Coloplast A/S	Denmark	TietoEnator Oyj	Finland
Rockwool International A/S	Denmark	Uponor Oyj	Finland
Københavns Lufthavne A/S	Denmark	Fiskars Oyj Abp	Finland
Danisco A/S	Denmark	Amer Sports Oyj	Finland
Topdanmark A/S	Denmark	Sponda Oyj	Finland
ALK-Abelló	Denmark	Pöyry Oyj	Finland
A/S Dampskibsselskabet TORM	Denmark	Finnair Oyj	Finland
NKT Holding A/S	Denmark	Citycon Oyj	Finland
Bang & Olufsen Holding A/S	Denmark	Ahlstrom Oyj	Finland
Det Østasiatiske Kompagni A/S	Denmark	Lassila & Tikanoja Oyj	Finland
DFDS A/S	Denmark	M-real Oyj	Finland
GN Store Nord A/S	Denmark	Huhtamäki Oyj	Finland
SimCorp A/S	Denmark	Alma Media Oyj	Finland
Aktieselskabet Schouw & Co.	Denmark	Ruukki Group Oyj	Finland
Jeudan A/S	Denmark	Lemminkäinen Oyj	Finland
Greentech Energy Systems A/S	Denmark	Finnlines Oyj	Finland
Nokia Oyj	Finland	Cramo Oyj	Finland
Fortum Oyj	Finland	Vaisala Oyj	Finland
Sampo Oyj	Finland	Atria Yhtymä Oyj	Finland
Kone Oyj	Finland	StatoilHydro	Norway
UPM-Kymmene Oyj	Finland	Telenor	Norway
Stora Enso Oyj	Finland	DnB NOR	Norway
Neste Oil Oyj	Finland	Yara International	Norway
Outokumpu Oyj	Finland	Norsk Hydro	Norway
Metso Oyj	Finland	Renewable Energy	Norway
Wärtsilä Oyj Abp	Finland	Orkla	Norway
Rautaruukki Oyj	Finland	Seadrill	Norway

Aker Kværner	Norway	Aktiv Kapital	Norway
Petroleum Geo-Services (PGS)	Norway	DOF	Norway
Fred. Olsen Energy	Norway	Arendals Fossekompani	Norway
Aker	Norway	Odim	Norway
Storebrand	Norway	SalMar	Norway
Prosafe	Norway	Norske Skog	Norway
Subsea 7	Norway	Hennes & Mauritz AB	Sweden
Hafslund	Norway	Nordea Bank AB	Sweden
Marine Harvest	Norway	TeliaSonera AB	Sweden
Kongsberg Gruppen	Norway	Volvo AB	Sweden
Bonheur	Norway	Ericsson Telefonab	Sweden
Schibsted	Norway	Atlas Copco AB	Sweden
Tandberg	Norway	Sandvik AB	Sweden
Olav Thon Eiendomsselkap ASA	Norway	Skandinaviska Enskilda Banken AB	Sweden
Awilco Offshore	Norway	Svenska Handelsbanken AB	Sweden
TGS-NOPEC Geophysical	Norway	SCANIA AB	Sweden
Aker Yards	Norway	Investor AB	Sweden
DNO International	Norway	Swedbank AB	Sweden
Ganger Rolf	Norway	Svenska Cellulosa AB SCA	Sweden
Golden Ocean Group	Norway	SSAB Svenskt Stål AB	Sweden
BW Offshore Limited	Norway	SKF AB	Sweden
Veidekke	Norway	Tele2 AB	Sweden
Stolt-Nielsen	Norway	Skanska AB	Sweden
PA Resources	Norway	Alfa Laval AB	Sweden
Fast Search & Tra...	Norway	Industrivärden, AB	Sweden
Songa Offshore	Norway	ASSA ABLOY AB	Sweden
Ocean Rig	Norway	Swedish Match AB	Sweden
Austevoll Seafood	Norway	Ratos AB	Sweden
Wilh. Wilhelmsen	Norway	Getinge AB	Sweden
Lerøy Seafood Group	Norway	Kinnevik Investment AB	Sweden
Tomra Systems	Norway	Hexagon AB	Sweden
BW Gas	Norway	Electrolux AB	Sweden
Cermaq	Norway	Modern Times Group MTG AB	Sweden
Farstad Shipping	Norway	Securitas AB	Sweden
Odfjell	Norway	Husqvarna AB	Sweden
Solstad Offshore	Norway	Lundin Petroleum AB	Sweden
Wavefield Inseis	Norway	Peab AB	Sweden
Acta Holding	Norway	Boliden AB	Sweden
Pronova BioPharma	Norway	Atrium Ljungberg AB	Sweden
Norwegian Property	Norway	NCC AB	Sweden

Holmen AB	Sweden
Öresund Investment AB	Sweden
Meda AB	Sweden
SAAB AB	Sweden
Lundbergföretagen AB	Sweden
Hufvudstaden AB	Sweden
JM AB	Sweden
Wallenstam Byggnadsab	Sweden
Melker Schörling AB	Sweden
Castellum AB	Sweden
Latour Investment AB	Sweden
Lindab International AB	Sweden
Seco Tools AB	Sweden
Fabege AB	Sweden
Axfood AB	Sweden
Kungsleden AB	Sweden
Hakon Invest AB	Sweden
Trelleborg AB	Sweden
SAS AB	Sweden
Elekta AB	Sweden
Nobia AB	Sweden
Axis AB	Sweden
D. Carnegie & Co AB	Sweden
Intrum Justitia AB	Sweden
Q-Med AB	Sweden
Eniro AB	Sweden
AarhusKarlshamn AB	Sweden
Clas Ohlson AB	Sweden
Securitas Systems AB	Sweden
Indutrade AB	Sweden
Wihlborgs Fastigheter AB	Sweden
Rezidor Hotel Group AB	Sweden
Munters AB	Sweden
Peab Industri AB	Sweden
Cardo AB	Sweden
Höganäs AB	Sweden